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Forest Park Area Storm and Sanitary Management Plan

Report Appendices (Volume 2 of 2)

City of

Kenosha, WI

August 2014

STRAND ASSOCIATES®

Report–Appendices (Volume 2 of 2) for

City of Kenosha, Wisconsin

Forest Park Area Storm and Sanitary Management Plan

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Kenosha Stormwater Utility
Attn: Shelly Billingsley
625 52nd Street, Room 305
Kenosha, WI 53140
(262) 653-4149

September 15, 2009

Re: Forest Park Area Information Survey

In an effort to better understand the causes of flooding in the Forest Park area, we are asking you to fill out this brief survey. We thank you in advance for your cooperation and strongly encourage your participation. As we all work together, we hope to minimize the potential for flooding and sanitary sewer backups in your neighborhood.

Instructions

Please fill out this form and return by September 30, 2009, in one of the following ways:

1. Mail or drop off at the above address.
2. E-mail to: sbillingsley@kenosha.org
3. Fax to (262) 653-4056.
4. Complete survey online (Link to survey located at www.kenosha.org under the **Current News** section)
5. Bring to Public Information Meeting No. 1 on September 24, 2009, at the Kenosha Civil War Museum.

Resident Information

Name: _____

Street Address: _____

Home Phone: _____

Daytime Phone: _____

Cell Phone: _____

Number of Years at Current Address: _____

Survey Questions

1. Do you have a basement? ☐ Yes ☐ No

2. If you have a basement, have you experienced storm-related flooding in your basement? ☐ Yes ☐ No

If yes, what was the approximate depth of water? _____

If yes, how often and in what year(s) did this occur? _____

3. Which of the following best describes the cause(s) of your storm-related basement flooding (check all that apply)?

☐ Sump pump failure
☐ Foundation cracks/leaks
☐ Sump pump could not keep up
☐ Windows/window well (egress)
☐ Floor drain (sewer water)

Other _____

Please complete the back side of this survey and sketch.

4. **At the time when you experienced water in your basement, was the street flooded in front of your house?**

☐ Yes ☐ No

5. **Have you noticed storm-related flooding in your yard, a neighbor's yard, or in the street in front of your house?**

☐ Yes ☐ No

If yes, how often and in what year(s) did this occur? _____

If yes, describe location, limits, and depth of flooding with reference to landmarks (home, steps, curb, fire hydrant, tree, etc.) or sketch the area in the space provided on the attached sheet (sketch not applicable to online survey):

_____

_____

6. **How is the foundation of your home drained?**

☐ Connected to sump pump
☐ Sanitary sewer
☐ Perimeter drain tile
  ☐ Interior
  ☐ Exterior
☐ Do not know
☐ Not applicable, do not have basement

Other _____

7. **Where does your sump pump discharge to?**

☐ Basement floor drain
☐ Yard/street
☐ Direct connection to storm sewer
☐ Direct connection to sanitary sewer or lateral
☐ Not applicable, do not have sump pump

Other _____

8. **Do you have a sanitary sewer backwater valve?** ☐ Yes ☐ No

9. **Do you have standpipes or plugs in your basement floor drains?** ☐ Yes ☐ No

10. **Have you experienced nonstorm-related flooding?** ☐ Yes ☐ No

If yes, describe reason why:

_____

_____

11. **Representatives of the city will be canvassing the neighborhood on Saturdays in October to obtain feedback from residents that do not respond to this survey. We ask that you encourage your neighbors and friends in the neighborhood to respond to the survey. If you would like a representative to stop by your home during the canvassing, please check yes in the box below. Thank you for your time and response.**

☐ Yes ☐ No

12. **Sketch of Flooding Extents (Provide based on June 19, 2009, storm event): Please show landmarks (home, trees, sidewalk, driveway, etc.) and the measured or estimated depth of flooding in reference to the landmarks. Also show location of sump pumps or foundation drains on your home and the discharge points. Attach photographs if available.**

Clarification of Zoomerang Web site Raw Data Export

(File Name: 1.29.10 Forest Park Information Survey-Raw Data.xlsx):

1. If there is no 'Submit Time', the survey is considered a partial complete and any data entered was not used in result evaluation.

2. Entries under 'Question 1: Street Address' that have a prefix/suffix of JLJ, PAB or AMS were surveys that were mailed to the City or obtained via telephone calls or canvassing that were entered manually by Strand staff to the Zoomerang Web site.

3. Some entries for 'Question 1: Street Address' have a six digit suffix after the address. This number is the last six digits of the parcel number and was used to organize the completed surveys.

Session ID	Submit Time	Question 1: Street Address	Question 2: Name	Question 2: Home Phone Number	Question 2: Daytime Phone Number	Question 2: Cell Phone Number	Question 3: Number of Years at Current Address	Question 4: Do you have a basement?	Question 5: If you have a basement, have you experienced storm-related flooding in your basement?	Question 5: If yes, what was the approximate depth of water? How often and in what year(s) did this occur?	Question 6: Which of the following best describes the cause(s) of your storm-related flooding? (Check all that apply)	Question 6: Sump pump failure	Question 6: Foundation cracks/leaks	Question 6: Sump pump could not keep up	Question 6: Windows/ window well (egress)	Question 6: Floor drain (sewer water)	Question 6: Other, please specify	Question 7: At the time when you experienced water in your basement, was the street flooded in front of your house?	Question 8: Have you noticed storm-related flooding in your yard, a neighbor's yard, or in the street in front of your house?
331712330	9/18/2009 4:34	5510 67th St	Michelle & Peter Ricchio	262-654-4145	262-654-4145		9	Yes	No										No
331717784	9/18/2009 5:09	6211 Pershing Blvd	Richard Tunkieicz	262-652-9970			15	Yes	No										No
331723748	9/18/2009 5:40	6032 - 49th Avenue					13	Yes	No										No
331740905	9/18/2009 6:55	5113 62nd St	Gary	657 6427	657 -6427	960 4016	26	Yes	Yes	2+inches. annually . Dec 30-31 2008 Spring of 2009 were the last two .				X				No	No
331778063	9/18/2009 9:01	6406 54th Avenue	Patricia Famous	262-654-7201	262-654-7201		6 years	Yes	Yes	1 time. Approx 3 inches deep		X						No	No
331851773	9/18/2009 12:54	6313-48Ave	Peter Binotto	2626583115	2626583115		37	Yes	No										No
331938383	9/19/2009 2:28	5321 66th Place	Joe & Erica Riesselmann		262-945-2630	262-945-2177	7	Yes	No										Yes
331939265	9/19/2009 2:44	4730 Wilson Road	Douglas & Nancy Maurer	262-654-1393	262-654-1393		16	Yes	No										Yes
331963731	9/19/2009 7:50	6014-50th ave.	richard granger	2626570861			23	Yes	Yes	minimal					X			No	Yes
331985209	9/19/2009 11:18	6349 47th Ave	Erik Solita	2627050724	2627050724	2627050724	6	Yes	Yes	There are two puddles that occur during very heavy rains. This has only happened twice in 6 years.					X			No	No
332063994	9/20/2009 8:03	6710 52nd Ave	Chris Boyle	262-652-2707	888-647-6676 ext 6713	262-909-8406	5	Yes	No										Yes
332073396	9/20/2009 9:39	5114 62nd Street	Linda Smith	262-653-9965		262-358-4997	10 years	Yes	Yes	I believe it was May 2004???? it was about 1 ft of water FEMA came out. Sump pump couldn't keep up. Since then we have had sump pump go directly into sewer systems and in June 2009 heavy rains, water started coming in from the walls on the east side of the house standing water in different places within the basement.				X				No	No
332103179	9/20/2009 14:37	6618 Pershing Blvd.	Carol Heide	262.653.8265			12	Yes	Yes	Just a very small amount - several puddles.							Not sure.	No	No
332345735	9/21/2009 13:50	4302 Taft Road	Laura Sterling	262-652-6468			8	Yes	Yes	Surface water - didn't reach much of a depth. Happened Aug/Sept of 2008			X		X		disconnected gutters	No	Yes
332354474	9/21/2009 14:19	5221 62nd Street	Joe Eternicka	652-2775	652-2775		35	Yes	Yes	2 inches of water, 20 years ago and 14 years ago		X						No	Yes
332368803	9/21/2009 15:49	5204 63rd street	ken weiher	262-6540672	262-6540672	NA	30years	Yes	Yes	This happened a few times in many years of living here, can't remember what years!		X		X	X		city cleaning sewers made filthy water to come in.	No	Yes
332412442	9/21/2009 19:23	6024 48th Avenue	Robin & Todd Knoke	262-654-6680	262-654-6680	N/a	21 YEARS	Yes	No										No
332564710	9/22/2009 10:01	6012 48th ave	Jenny Perrault	262-652-9071	262-652-9071		11 years	Yes	No										
332787632	9/23/2009 5:53	6340 46th Avenue	Julie Whyte	262.652.6424	262.564.3014	262.818.1147	38 years	Yes	No										No
332873248		7837 33rd Avenue	Dina Tostrud			2623443462	6												
333091960	9/24/2009 6:13	6312 - 50th ave	Richard Maksen				37	Yes	No										
333229550	9/24/2009 13:11	6525-50th avenue	Arnold & Sydney Nye	262-657-9030	same	n/a	21	Yes	Yes	8-10"/rarely 1998 - 2009				X		X		Yes	Yes
333346776	9/25/2009 2:59	4925 - 67th Street	Robert and Sandra Petersen	(262) 658 - 4175	(262) 656-5244 (Robert-work)	(262) 914 - 0525	24	Yes	Yes	One half inch, don't remember the year, but was within the last five years. This was due to sump pump failure. Years ago, we had water coming up through the floor drain and a pool of water approx. 6 feet in diameter surrounded the drain. Our neighbors to the east (4919 - 67th Street) were experiencing basement flooding at the time and were using a standpipe		X				X		No	No
333607478	9/26/2009 7:15	6357-48th Av	Martin G. Bach	262-657-7066	262-657-7066	262-945-7069	32 years	Yes	Yes	just a little in very heavy rain					X			No	Yes
333615124	9/26/2009 8:42	5517 64th St	Aimee Somers	262-654-6484			6	Yes	No									No	Yes
333872669	9/28/2009 8:18	6305 49th ave	Marilyn Plutchak	6548166			27	Yes	Yes			X						No	No
333876817	9/28/2009 8:30	6022 46th avenue	Josephine Foster	262-654-6011			48	Yes	No										Yes
334051611	9/28/2009 18:29	5416 65th St	Osmar Aguilar	262-308-0621	262-308-0621	262-308-0621	1	Yes	No										Yes
334064008	9/28/2009 19:58	5218 65th Place	James and Krista Lichtenheld	654-3940	697-9616	914-0094	17	Yes	Yes	1/4 - 1/2 in., 6/2000 and 6/2000		X	X	X				Yes	Yes
334135652	9/29/2009 6:34	6113 50th Avenue	Brenda Manry	262-577-5189	262-577-5189	262-308-0133	4.5	Yes	Yes	2" - June 19,2009						X	Fresh water also came up from flapper valve hole	No	Yes

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335333399	10/3/2009 11:12	6048-47 ave	Jackie Waring	262-652-0630	262-652-0630	262-818-4064	2	Yes	Yes	2 inches of water in January 2009							floor drain backed up, back yard was flooded	No	No
335346888	10/3/2009 13:26	6600 48th ave	john	262-654-7105	262-654-7105		2	Yes		1 inch, 2007			X			X		No	No
335355228	10/3/2009 14:58	4726 Wilson Road	Joseph Loshek	652-6490			15	Yes	No				X		X			No	Yes
335446621	10/4/2009 12:33	5415 63rd st.	Carroll H. Stout	262-652-8701			30something	Yes	Yes	2+ inches, twice, early spring 75-76		X			X			No	Yes
335761037	10/5/2009 15:31	6219 51st Avenue	Mark Sobczak	657-9481			15	Yes	Yes	an inch or so, it's been a problem the last 7 years or so			X					No	No
335765658	10/5/2009 15:49	6333-51 av	William Rath	657-1664			10	Yes	No										No
335798666	10/5/2009 18:43	6353 49th Avenue	Tami Potts	262-654-6178			18 years	No											Yes
335881017	10/6/2009 6:29	5410 65th Street	Kristine and Erik Bartz	262-657-4639	same		16 years	Yes	Yes	About 1/4 inch. Started about 1994.			X					No	No
335902952	10/6/2009 7:25	6602-49ave	Tina and Fred Callow	262-653-8122			12yrs	Yes	Yes	1 inch, three years ago. We get water in the basement every time it rains alot.			X					No	Yes
336146818	10/6/2009 18:31	4627 Harding Road	Ryan Marquart	262 652 6577	262 948 8915		5	Yes	No										Yes
336365419	10/7/2009 11:51	6042-51ave.	gary mink	262658-8646	262658-8646		41	Yes	No										Yes
336429223		4308--68th St	Cynthia Hughes	262-605-3212	262-554-1390 x6986	262-914-3445	2	Yes	No									No	Yes
336474739	10/7/2009 17:41	6117 - 50th Avenue	Frank and Vicky Germinaro	654-3953	Same	N/A	30	Yes	Yes	This summer in June, 1-2 feet of water. About 8 years ago, water was 4 feet deep at one point.				X		X		Yes	Yes
336971792	10/9/2009 8:48	JLJ - 6023 47th Ave.	David A. and Annette M. Bayer	262-652-3220	262-652-3320	262-455-5932	3	Yes	No										
336973497	10/9/2009 8:53	JLJ - 4707 Wilson Rd.	Kenneth Suchy	262-605-1410	262-358-1450	262-358-1450	6	Yes	Yes	3", 05/2004			X					No	Yes
336975058	10/9/2009 8:57	JLJ - 6109 51st Ave.	Patrick Bufton	605-5324	605-5324	960-9496		Yes	Yes	12", one time in 2009						X		Yes	Yes
336976416	10/9/2009 9:01	JLJ - 6122 49th Ave.	Michael and Gina Slye	262-605-9756	847-8545 (Gina M/W/TH)		7.5	Yes	Yes	2" near floor drain, less as move outward. May 2004 and June 2009.						X		No	No
336977901	10/9/2009 9:03	JLJ - 6116 49th Ave.	Stanley R. Kuntz	262-654-6807	262-654-6807		38	Yes	Yes	4 inches to 2 inches, 6/19/2009, 4th time						X		Yes	Yes
336979025	10/9/2009 9:06	JLJ - 5104 61st St.	Steve Tindall	654-5100	262-914-0328	262-914-0328	22	Yes	No										Yes
336979855	10/9/2009 9:08	JLJ - 5204 61st St.	Russell and Laurie Hackbarth	262-652-0482	262-658-3142	262-945-1421	31	Yes	Yes	1/2"					X		Over top of foundation	No	Yes
336980619	10/9/2009 9:10	JLJ - 5314 62nd St,	Naoko Puntillo	262-577-5903	262-577-5803		12	Yes	No										No
336981122	10/9/2009 9:15	JLJ - 6108 51st Ave.	Jean Wawiorka	262-605-8772	262-605-8772	262-945-8089	13	Yes	Yes	Less than 1 inch, twice in 2009			X	X				Yes	Yes
336982987	10/9/2009 9:16	JLJ - 5305 63st St.	Shirley Veasey	654-3581	654-3581		23	Yes	No										
336983396	10/9/2009 9:18	JLJ - 5507 64th St.	Dan and Cindy Lein	652-9578	652-9578	262-705-5551 (Dan)	18	Yes	No										Yes
336984021	10/9/2009 9:20	JLJ - 6506 54th Ave.	Tim and Rieko Butterfield	262-654-1482	262-914-4725	262-914-4725	10	Yes	No										No
336984721	10/9/2009 9:24	JLJ - 6612 52nd Ave.	Robert J. Bakula	262-652-0194	262-652-0194		45	Yes	Yes	5" 2000		X						No	Yes
336986329	10/9/2009 9:27	JLJ - 5208 66th Pl.	Brian P. Rasch	262-656-0748			16	Yes	No										No
336987115	10/9/2009 9:29	JLJ - 6522 51st Ave.	Frank Ruffolo	262-764-2625			20	Yes	Yes	?", once, June 19, 2009						X		Yes	Yes
336987783	10/9/2009 9:31	JLJ - 6329 48th Ave.	Al Espinosa	652-3339	652-3339		35	Yes	No										Yes
336988401	10/9/2009 9:34	JLJ - 4707 63rd St.	Vincente (Vinnie) and Brigit Correa	262-764-5580		262-909-1369	3	Yes	Yes	1", 2007 and 2008		X	X					Yes	Yes
336989564	10/9/2009 9:37	JLJ - 6532 50th Ave.	Bob and Judy Tinnen	652-3388			46	Yes	Yes	3',1965,71,82,01 and whenever it rains heavy			X	X	X	X	Toilet and shower drain	Yes	Yes
336990524	10/9/2009 9:38	JLJ - 6543 50th Ave.	Marinus Kloet	262-652-7216	262-652-7216		48	Yes	Yes	10"-12", 1964						X		Yes	Yes
336991024	10/9/2009 9:40	JLJ - 6549 49th Ave.	Gilbert E. Brown	262-652-7622	262-652-7622		33	Yes	No									No	No
336991487	10/9/2009 9:41	JLJ - 6545 49th Ave.	Linda Patrick	262-652-2788		262-652-2788	25	Yes	Yes	1/4", twice		X						No	Yes
336992089	10/9/2009 9:46	JLJ - 6021 46th Ave.	Andrew Schweninger	262-960-6782	262-960-6782	262-960-6872	6	Yes	Yes	Less than 1", it happens every time we have a very heavy rainfall			X			X		No	Yes
336994397	10/9/2009 9:50	JLJ - 6027 46th Ave.	Audrey Martin	652-3553			7	Yes	No										Yes
336995502	10/9/2009 9:52	JLJ - 6314 48th Ave.	Edgar and Theresa Vargas	262-658-1844	262-658-1844		33	Yes	No										No
336996091	10/9/2009 9:55	JLJ - 5510 64th St.	Bruce Barber	262-654-3158	262-605-2641		12	Yes	Yes	1", June 19, 2009 and twice before					X			No	No
336997102	10/9/2009 10:01	JLJ - 5005 61st St.	Rich and Michelle Long	262-652-9736	262-652-9736	262-358-2387	5	Yes	Yes	4"-6", this was the first time in 5 years, but it has been flooded before I moved in.						X		Yes	Yes
337015479	10/9/2009 10:53	JLJ - 6503 40th Ave.	Jill Herman	654-2956			10	Yes	Yes	16", once, June 19, 2009						X		Yes	Yes
337017192	10/9/2009 11:01	JLJ - 6425 40th Ave.	Frank Shackelford	652-7331	652-7331		45	Yes	Yes	10", one time, June 19, 2009						X		Yes	Yes
337019307	10/9/2009 11:03	JLJ - 5303 65th Pl.	Gene L. and Marianne Becker	652-0808	652-0808		33	Yes	No										Yes
337021256	10/9/2009 11:14	JLJ- 6035 47th Ave.	Elizabeth Benicek			262-705-4836	48	Yes	No										

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337023498	10/9/2009 11:17	JLJ - 6536 50th Ave.	Vivienne and Lee Bodoh	262-654-1452	262-654-1452	262-960-6516	9.5	Yes	Yes	12", twice, 2000-2009			X			X		Yes	Yes
337025329	10/9/2009 11:31	JLJ - 4614 61st St.	Robt. A. Hermann	262-658-2649	262-658-2649		40	Yes	Yes	3", Mid '90's						X		No	Yes
337029622	10/9/2009 11:38	JLJ - 6106 44th Ave.	William J. Wember	652-1095	652-1095		14	Yes	Yes	12" or more, 1995/2005 after heavy rain storm			X				Water seeps through floor	Yes	Yes
337031866	10/9/2009 11:40	JLJ - 6315 47th Ave.	Virginia Querns	262-652-8029	262-652-8029		47	Yes	No										
337032558	10/9/2009 11:41	JLJ - 6401 47th Ave.	Sandra Carlson	605-8914			10	Yes	No										No
337032952	10/9/2009 11:43	JLJ - 4617 Harding Rd.	Joseph J. and Lynn M. Kiser (renters)	262-764-9843	262-496-2105 or 262-764-9843	262-496-2105	0.25	Yes	No										
337033725	10/9/2009 11:44	JLJ - 4708 61st St.	Bill Pope	654-7903		496-5761	49	Yes	No										
337034125	10/9/2009 11:46	JLJ - 6024 47th Ave.	Marjorie E. Pias	262-654-8211			54	Yes	No										
337034534	10/9/2009 11:47	JLJ - 6027 50th Ave.	Ellen R. Dumke	262-658-3485	262-658-3485		15	Yes	No									No	No
337034882	10/9/2009 11:49	JLJ - 6033 51st Ave.	W. Pabst	654-4769			49	Yes	Yes	1", once 199?, once 2007			X			X			Yes
337035515	10/9/2009 11:53	JLJ - 6028 50th Ave.	Rita and Rudolph Krueger	262-652-5099	262-652-5099		32	Yes	Yes	1/4", 2008-2009						X		No	Yes
337036652	10/9/2009 11:54	JLJ - 6218 50th Ave.	Craig A. Kewenig	262-652-5411	262-652-5411		40+	Yes	No										No
337037223	10/9/2009 11:56	JLJ - 5213 60th St.	New Wave Auto Appearance Center		262-657-1636		15	No											No
337037616	10/9/2009 12:00	JLJ - 5126 63rd St.	Paulette Sanderson	652-1889			35	Yes	Yes	1-2 feet, 1979-1983		X				X		No	Yes
337038974	10/9/2009 12:04	JLJ - 5209 63rd St.	Howard and Marlene Schmaling	262-652-6858	262-652-6858		47	Yes	No										Yes
337040117	10/9/2009 12:05	JLJ - 5422 64th St.	David C. Ralph	654-6554	654-6554		19	Yes	No										
337040514	10/9/2009 12:06	JLJ - 6509 54th Ave.	L. George Hedges	262-652-7648			35	Yes	No										No
337041103	10/9/2009 12:07	JLJ - 6403 50th Ave.	Donald B. Miller	262-658-2409	262-658-2409		45	Yes	No										No
337041436	10/9/2009 12:08	JLJ - 4908 65th St.	Patricia Santiago	262-605-8325	262-605-8325		7	Yes	No									No	No
337042096	10/9/2009 12:12	JLJ - 6334 49th Ave.	Rick Milkie	652-5243	945-5095	945-5095	17	Yes	No										
337042944	10/9/2009 12:15	JLJ - 6318 50th Ave.	Robert A. Laudonio	262-652-9145	262-652-9145	262-515-1379	30	Yes	No									No	Yes
337044070	10/9/2009 12:16	JLJ - 5014 67th St.	Tom and Nancy Laken	652-3835	652-3525	262-496-3268	45	Yes	No										No
337044467	10/9/2009 12:24	JLJ - 6542 50th Ave.	Sue and Larry Prostico	262-652-1822	652-1822 (only home on Tuesdays)		9	Yes	Yes	5", 2000-5", 2009-1" and another time also						X		Yes	Yes
337046718	10/9/2009 12:31	JLJ - 6533 50th Ave.	Pat Sentieri	764-3333	605-1170	822-8111	19	Yes	Yes	6", approximately once a year, usually June						X		Yes	Yes
337056304	10/9/2009 12:56	JLJ - 5009 67th St.	James and Judith Holter	262-764-4471	262-764-4471	414-589-0198	4	Yes	Yes	1", 2007		X		X				No	No
337057286	10/9/2009 12:58	JLJ - 6133 50th Ave.	John S. Schlussen	653-1705	653-1705		9	Yes	No										
337057657	10/9/2009 12:59	JLJ - 4703 Harding Rd.	Bart and Aileen Hafferkamp	262-657-7423	262-657-7423	262-818-7423	26	Yes	No										
337058040	10/9/2009 13:06	JLJ - 5215 62nd St.	Craig M. and Penny S. Teschler	262-657-6253	262-657-6253		28	Yes	Yes	2" (had carpeting saturated), 2009 (twice), sump pump ran 60 minutes straight-stopped 3-6 seconds and would continue like this all night.				X				Yes	Yes
337060396	10/9/2009 13:09	JLJ - 6208 51st Ave.	Dawn Jurca	652-0408			13	Yes	Yes	2", December 2008, June 2009, two other times I don't recall the dates							Water comes in crawl space in back of property	Yes	Yes
337061391	10/9/2009 13:15	JLJ - 6216 Pershing Blvd.	Raymond V. and Marguerite Rupp	262-652-3795	262-652-3795		40	Yes	No										No
337063651	10/9/2009 13:16	JLJ - 4817 63rd St.	Myron E. and Lois A. Schulz	262-652-7342	262-652-7342		47	Yes	No										No
337064035	10/9/2009 13:18	JLJ - 4702 61st St.	Robert Weidner	262-658-8978	262-658-8978		48	Yes	No										No
337064425	10/9/2009 13:20	JLJ - 6019 47th Ave.	Eric and Tracy Miguin				2	Yes	Yes	1/4", 2007, 2008, 2009 (a few times a year)			X					No	Yes
337065126	10/9/2009 13:21	JLJ - 6324 48th Ave.	Marie Wasmund	652-5379	652-5379		42	Yes	No									No	No
337065572	10/9/2009 13:25	JLJ - 4706 Harding Ave.	Helen Swanningan (daughter is Charlene Smith)	262-652-4960	262-652-4960	262-308-3646	49	Yes	Yes	Ankle deep, 2-3 times in mid '60's to mid to late '70's.						X			
337066621	10/9/2009 13:26	JLJ - 6018 50th Ave.	Dorothy Manna	262-654-1896			47	Yes	Yes	2"					X		Floor drain, but not sewer water	No	No
337066975	10/9/2009 13:28	JLJ - 6330 46th Ave.	Helen Benuska	262-658-3200			57	Yes	Yes	3", once about 5-6 years ago (2003-2004)						X	Around old gas pipe	No	No
337067552	10/9/2009 13:29	JLJ - 6220 51st Ave.	Gary and Cheryl Henthorn	652-0729	652-0729		32	Yes	No										No
337067887	10/9/2009 13:31	JLJ - 6312 47th Ave.	Marvin Pynaker	262-654-3139	262-654-3139		37	Yes	No										

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337068340	10/9/2009 13:33	JLJ - 5522 67th St.	Gary C. and Patricia Goettge	262-658-8287	262-658-8287	262-909-8287	26	Yes	No										
337069144	10/9/2009 13:35	JLJ - 5313 62nd St.	Harold Grissom	262-652-1110	262-652-1110	262-498-5759	25	Yes	No										No
337069721	10/9/2009 13:37	JLJ - 5219 65th Pl.	Harvey Tredup	653-8197	653-8917		17		No										No
337070272	10/9/2009 13:39	JLJ - 4608 61st St.	Patrick McGraw	262-652-2314	262-652-2314		10	Yes	No										Yes
337070889	10/9/2009 13:41	JLJ - 4920 67th St.	Lisa and Craig Grove	262-658-1749	262-945-6895	262-945-6895	10.5	Yes	No	But water in basement							Came up from drain in laundry room	Yes	Yes
337071664	10/9/2009 13:43	JLJ - 6533 48th Ave.	Patricia A. Gibson	262-658-4737	262-658-4737		50	Yes	Yes	2"-10", approximately 40 years-20 years ago			X				Floor drain (rain water)	Yes	No
337072234	10/9/2009 13:51	JLJ - 6537 51st Ave.	Craig and Angela Preston	262-654-4007	262-654-4007		20	Yes	Yes	8"-12" or more, June 2009, June 2000, mid 90's-lesser in between						X		Yes	Yes
337085298	10/9/2009 13:53	JLJ - 5020 65th St.	John J. Hoffmann	654-4908	654-4908		53	Yes	No										No
337085841	10/9/2009 13:55	JLJ - 6302 Pershing Blvd.	A. Bautch	652-4528			38	Yes	No										No
337087055	10/9/2009 13:59	JLJ - 6309 50th Ave.	Max Bair Life Estate	262-652-9031	262-652-9031		17	Yes	No										No
337087425	10/9/2009 14:01	JLJ - 6204 51st Ave.	Lenore Parent	652-7392	652-7392		33	Yes	Yes	2", 3-4 times total, most recent in June 2009				X		X		No	Yes
337088297	10/9/2009 14:04	JLJ - 6403 51st Ave.	Dorothy J. Marsden	262-652-6036	262-653-6036		57	Yes	No										
337089265	10/9/2009 14:06	JLJ - 6604 50th Ave.	Grace Valentine	262-654-4873			53	Yes	Yes	Seepage runs to floor drain, nothing signficant			X					No	No
337089882	10/9/2009 14:12	JLJ - 6115 54th Ave.	Claudia Schiller	262-654-4652			30+	Yes	No									No	
337091872	10/9/2009 14:17	JLJ - 6532 49th Ave.	Joanne Martin	262-654-4555			45	Yes	Yes	1"-2" in June 19, 12" in 1955/1966			X			X		Yes	
337093259	10/9/2009 14:19	JLJ - 6347 51st Ave.	Therese Richtmyre	262-654-4246			18	Yes	No									No	No
337093946	10/9/2009 14:22	JLJ - 6202 50th Ave.	Margaret Desarmo	262-652-9011			17	Yes	No									No	No
337096721	10/9/2009 14:24	JLJ - 6326 50th Ave.	Donna Grisham	262-652-8855			30	Yes	Yes	5"-6", 5-6 years ago			X					Yes	Yes
337097312	10/9/2009 14:26	JLJ - 6042 48th Ave.	Mr. Hart	262-652-8769					No										
337097757	10/9/2009 14:27	JLJ - 6502 47th Ave.	Doris Kazell	262-652-8752				No										No	No
337098030	10/9/2009 14:28	JLJ - 6518 47th Ave.	Gregory Bonofiglio	262-652-8712			40	Yes	Yes						X			No	No
337098491	10/9/2009 14:30	JLJ - 6512 50th Ave.	Donald Striech	262-652-8577			40+	Yes	Yes	In the 60's it flooded a few times, nothing recently. Was not around during June storm.								No	No
337099032	10/9/2009 14:34	JLJ - 4810 Harding Rd.	Mr. Salata	262-605-0673			8	Yes	Yes	1/4", 2002			X		X			No	No
337133333	10/9/2009 17:18	JLJ - 6502 51st Ave.	Mr. and Mrs. William J. Hall	262-657-1758	262-657-1758		26	Yes	Yes	Trickle, 2009 and a few other years					X				
337133719	10/9/2009 17:20	JLJ - 6323 51st Ave.	Dorothy Keuffer	654-3449			48	Yes	No										
337133912	10/9/2009 17:24	JLJ - 6043 49th Ave.	Jason and Haley Bell	652-1189	652-1189	620-7530	10.5	Yes	Yes	1", June 2009, May 2005(?), our backyard will flood so bad we have to pump it out to the front yard						X		Yes	Yes
337134608	10/9/2009 17:28	JLJ - 4803 Harding Rd.	Paul and Christine Johnson	262-656-1826	262-657-3304		19.5	Yes	Yes	1" or so, approximately 14 years and again 2 years right after that. We had moved in 1990 about 1994-1995 we experienced water and had an insurance claim and then 2 years another water problem which again was turned into the insurance. We decided to put in a sump pump (in 2000) and have not had a problem since.						X		No	No
337135319	10/9/2009 17:31	JLJ - 5222 63rd St.	Mr. and Mrs. Gary Ludlow	654-5756	654-5756	914-5726	23	Yes	No									Yes	No
337135701	10/9/2009 17:32	JLJ - 6306 49th Ave.	Kenneth and Christine Urquhart	262-653-1367	262-206-9504		6	Yes	No									No	No
337135906	10/9/2009 17:35	JLJ - 5216 61st St.	Glenn and Rebecca Luzar	653-2390	262-424-4887		5	Yes	Yes	Had a leak in SW corner.			X				Drain tiles	No	No
337136339	10/9/2009 17:39	JLJ - 4719 65th St.	David and Morgan Sigafus	656-0759	656-0759		19	No											Yes
337136786	10/9/2009 17:42	JLJ - 5210 65th Pl.	Peter and Lori Martin	262-925-9766	262-939-4926		5.5	Yes	No									No	Yes
337137204	10/9/2009 17:46	JLJ - 4907 61st St.	Robert and Christine Stapher	847-912-4186	847-912-4186	847-912-4186	5	Yes	Yes	7"-8", June 19, 2009 (and at least once before we bought house in May or June 2004).						X			Yes
337137750	10/9/2009 17:47	JLJ - 4809 Harding Rd.	Jerome Spehar	654-1049	654-1049		49	Yes	No										No
337137975	10/9/2009 17:50	JLJ - 6108 50th Ave.	Jon and Jackie Ramey	654-5868	654-5868	496-5600	11	Yes	Yes	several floods 1' or less, 2009, 2000, 1999, 1997			X	X	X	X		Yes	Yes
337138381	10/9/2009 17:51	JLJ - 4804 61st St.	Joe and Judy Capponi	262-697-8066		262-496-2992	0.5	Yes											

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337138628	10/9/2009 18:01	JLJ - 5210 61st St.	Carleen M. Moore	262-456-6218	262-909-4381	262-456-6218/262-909-4381	4 (rented out since April 1, 2009)	Yes	Yes	2" (25% basement carpet drenched, wareboard replaced, into bottom of stairs, spreads room-bathroom and laundry room), 2009, 2008, 2007, 2006.			X			X		Yes	Yes
337154762	10/9/2009 19:52	JLJ - 6542 48th Ave.	Shirley Fiebelkorn	262-657-6454	262-657-6454		40	Yes	No										No
337155382	10/9/2009 19:55	JLJ - 6209 50th Ave.	Thomas W. and Carol A. Oberst	262-654-3329	262-654-3329		39	Yes	Yes	Not since 1998, few inches at low spots (glass blocks installed in 4 windows, 1997-1998, halted all leakage), 1990's during heavy rains.					X			No	No
337155860	10/9/2009 19:59	JLJ - 6519 51st Ave.	George Kauffman	654-5907	654-5907		54	No										No	Yes
337156421	10/9/2009 20:00	JLJ - 6526 48th Ave.	Janet Oberst	262-654-4319	262-654-4319		22	Yes	No										No
337156700	10/9/2009 20:03	JLJ - 6553 51st Ave.	Jeff and Sheila Neiner	262-925-0568		216-269-2497	5	Yes	No										No
337156968	10/9/2009 20:05	JLJ - 6114 Pershing Blvd.	Joanne Mele	657-1180			32	Yes	No										No
337157098	10/9/2009 20:06	JLJ - 6536 49th Ave.	Sally Peltier	657-9344			30	Yes	Yes	Only small amounts-sometimes just a trickle, when there is extra heavy rain.			X			X		No	No
337157349	10/9/2009 20:09	JLJ - 5308 62nd St.	Angela Rizzo	262-653-1090			4.5	Yes	No										No
337157578	10/9/2009 20:10	JLJ - 6314 49th Ave.	David Rockhoff	262-653-9342			2	Yes	No										No
337157725	10/9/2009 20:13	JLJ - 5202 67th St.	Eduardo	262-654-0701			20	Yes	Yes	Damp			X				Driveway tilted wrong	Yes	No
337158130	10/9/2009 20:15	JLJ - 6512 47th Ave.	Betty	262-654-1029			34	Yes	Yes	Trickles, 30 years ago			X					No	No
337158366	10/9/2009 20:17	JLJ - 6509 51st Ave.	Shannon	262-654-1545			10	Yes	Yes	Damp floor, rainstorm and roots from trees caused the basement to flood			X				Roots cleared, water drained	No	No
337158586	10/9/2009 20:20	JLJ - 5511 63rd St.	Michael	262-654-2248			20	Yes	Yes	Damp, once in the basement wet					X			No	Yes
337158950	10/9/2009 20:21	JLJ - 6106 49th Ave.	Ruben	262-654-3746			40	Yes	Yes	4", has happened a number of times						X		No	Yes
337159162	10/9/2009 20:23	JLJ - 6550 54th Ave.	Sandra	262-654-4215			15	Yes	No									No	Yes
337159430	10/9/2009 20:26	JLJ - 6313 50th Ave.	Robert Lang	262-605-0198			10	Yes	No									No	
337159704	10/9/2009 20:29	JLJ - 6526 49th Ave.	Martin Videlka	262-653-8261			4	Yes	Yes	Seepage			X					No	No
337160071	10/9/2009 20:30	JLJ - 6206 49th Ave.	Chris Troemel	262-764-0982			3	Yes	No									No	
337160291	10/9/2009 20:33	JLJ - 6516 51st Ave.	Ed Meyer	262-658-4479			13	Yes	No									Yes	
337160684	10/9/2009 20:37	JLJ - 5516 63rd St.	Brenda Usinger	262-925-8653			15	Yes	Yes	Patchy			X					No	No
337161083	10/9/2009 20:39	JLJ - 6203 54th Ave.	Edith Padgett	262-764-5164			36	Yes	Yes	One time when sump pump failed.		X						No	
337161360	10/9/2009 20:41	JLJ - 5304 66th Pl.	Jessica Martin	262-925-1028			7	Yes	Yes	2", June 2009 (no damage)		X						No	No
337161546	10/9/2009 20:43	JLJ - 6502 3rd Ave.	Michelle Anderson	262-764-1742			3	Yes	Yes	1"-2", June 2009			X					No	No
337162275	10/9/2009 20:49	JLJ - 4012 13th Ave.	Dorothy Germinaro	262-652-5547			37	Yes	Yes	Spots/no depth, once per year, June 2009					X			No	No
337162489	10/9/2009 20:51	JLJ - 6109 Pershing Blvd.	Gale Jones	262-652-4870			3	Yes	Yes	Carpet soaked up with water, removed with wet-vac, happened June 2009, has happened in past too. No sewage.					X			No	No
337162760	10/9/2009 20:55	JLJ - 6044 49th Ave.	Eleanore Shada	262-652-4719			28	Yes	Yes	1", June 2009			X					Yes	Yes
337163138	10/9/2009 20:57	JLJ - 6515 49th Ave.	Actor Mattox	262-652-4155			47	Yes	No									No	No
337163502	10/9/2009 21:03	JLJ - 6041 50th Ave	Billy Pate	262-652-4033			32	Yes	Yes	1'-2', not since 10 years ago. None in June 2009. 1 year through window wells, but dug out with shovel so no longer enters through there.						X		Yes	Yes
337212153	10/10/2009 6:34	JLJ - 6341 50th Ave.	Bernice Bathe	262-652-4032			50	Yes	No									Yes	No
337212502	10/10/2009 6:37	JLJ - 6308 47th St.	Linda Sicilia	262-652-3990			22	Yes	No									No	No
337212838	10/10/2009 6:39	JLJ - 4720 65th St.	Delores Gutche	262-652-3174			33	Yes	Yes	JLJ - 30 years ago, put in patio and hasn't leaked since. Occasional spots of water here and there, nothing major.								No	No
337213217	10/10/2009 6:42	JLJ - 6516 54th Ave.	Rose Hamilton	262-652-2340			21	Yes	Yes	1"-2", approximately 5 years ago (not in last few years), wet in June 2009			X	X				No	Yes
337213642	10/10/2009 6:47	JLJ - 6513 51st Ave.	Michelle Zanotti	262-652-1316			3	Yes	No									Yes	Yes
337214206	10/10/2009 6:49	JLJ - 6316 47th Ave.	Robert Miilu	262-605-9563			10	Yes	No									No	No
337214461	10/10/2009 6:52	JLJ - 6532 48th Ave.	Gloria Schiller	262-652-0406			55	Yes	No									No	No
337214920	10/10/2009 6:57	JLJ - 4517 60th St.	Donna Lewandowski	262-692-0039			20+	Yes	No									No	No

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337215583	10/10/2009 7:00	JLJ - 4815 Harding Rd.	Katrina Donato	4815 Harding Rd.	262-605-9945		10	No	No	Dirt crawl space.								No	No
337216075	10/10/2009 7:05	JLJ - 6513 48th Ave.	Maribel Acosta	262-605-9385			4	Yes	No									Yes	Yes
337216628	10/10/2009 7:07	JLJ - 6350 49th Ave.	Jennifer Wise	262-605-8277			13	Yes	No									No	No
337216985	10/10/2009 7:10	JLJ - 6520 49th Ave.	James Lewis	262-605-3527			3	Yes	No									No	No
337217273	10/10/2009 7:12	JLJ - 4715 65th St.	Laura Howe	262-605-1470			6	No	No									No	Yes
337217729	10/10/2009 7:15	JLJ - 6032 46th Ave.	Janet Stroud	262-605-1305			7	No	No									No	Yes
337217988	10/10/2009 7:16	JLJ - 6308 46th Ave.	Dawn and Lawerence Saari	262-605-0496			11	Yes	No										No
337218171	10/10/2009 7:18	JLJ - 6343 49th Ave.	Brian Ehlert	262-577-5094				No										No	No
337218431	10/10/2009 7:21	JLJ - 6624 52nd Ave.	Lillia Delle-Grazie	262-564-0358			7	Yes	Yes	Seepage, when it storms.			X					No	No
337218856	10/10/2009 7:23	JLJ - 6724 52nd Ave.	Richard Sellers	262-652-7568			17	Yes	No									No	No
337219566	10/10/2009 7:29	JLJ - 6546 49th Ave.	Belonsia Family Revocable Trust	262-654-4929				Yes	No				X					No	Yes
337219844	10/10/2009 7:30	JLJ - 5005 67th St.	Alicia Olson	262-654-5168				Yes	No										No
337219995	10/10/2009 7:32	JLJ - 6334 46th Ave.	Joanne Fastabend	262-654-5290			19	No	No										No
337220309	10/10/2009 7:33	JLJ - 6349 49th Ave.	Mary Ann Jackson	262-654-5802			8	No											No
337220591	10/10/2009 7:37	JLJ - 6109 44th Ave.	Marilyn Drigot	262-654-6223			50	Yes	No										No
337221203	10/10/2009 7:39	JLJ - 6333 47th Ave.	Hans Binder	262-654-6631			35	Yes	No										No
337221479	10/10/2009 7:41	JLJ - 6041 47th Ave.	Ida Gilbert	262-654-7397			55	Yes	No									No	No
337221677	10/10/2009 7:52	JLJ - 6041 47th Ave.	Pamela Flannery	262-654-7399			50	Yes	No									No	Yes
337223397	10/10/2009 7:54	JLJ - 4819 65th St.	Larry Coe	4819 65th St.	262-654-7574		29	No	No										No
337223653	10/10/2009 7:57	JLJ - 6324 53rd Ave.	Sharon McFarlane	262-654-7671			26	No											Yes
337224135	10/10/2009 8:00	JLJ - 6303 50th Ave.	Gene Brelling	262-654-7735			47	Yes	No									No	
337224486	10/10/2009 8:01	JLJ - 5533 64th St.	Catherine Schmidt	262-654-7941			15	Yes	Yes			X		X				Yes	No
337269481	10/10/2009 14:12	JLJ - 6529 48th Ave.	Freidon Hubbard	262-654-8084			54	Yes	No									No	Yes
337269706	10/10/2009 14:14	JLJ - 6219 46th Ave.	Rose Marie Schmidt	262-654-8214			19	Yes	Yes	?", Once, 1992, during heavy rain							Through toilet in basement		No
337269877	10/10/2009 14:17	JLJ - 5221 61st St.	Susan Legler	654-8377			25	Yes	Yes	Yes, several years during rain.						X			Yes
337270122	10/10/2009 14:19	JLJ - 6206 Pershing Blvd.	Edmund Lamacchin	262-654-9329			13	Yes	No									No	No
337270414	10/10/2009 14:21	JLJ - 6363 48th Ave.	Patricia Haye	262-654-9347				Yes	No										Yes
337270553	10/10/2009 14:24	JLJ - 6621 50th Ave.	Walter Kienbaum	262-654-9347			43	Yes	Yes	3' deep in last 10 years, maybe 6" average.					X	X		No	No
337270854	10/10/2009 14:30	JLJ - 5222 62nd St.	William Lui	262-654-9541			34	Yes	Yes	4", 1983, only one time due to loss of electricity to sump pump		X						No	No
337271431	10/10/2009 14:34	JLJ - 6334 51st Ave.	Debra Sherman	262-656-0735			22	Yes	No									Yes	Yes
337271746	10/10/2009 14:36	JLJ - 6410 51st Ave.	Michael R. Mowry	262-656-1279			25	Yes	Yes	Fixed problem (cracks in wall)			X					Yes	No
337271946	10/10/2009 14:37	JLJ - 6340 48th Ave.	Delores Renehan	262-656-7155			11	Yes	No									No	No
337272096	10/10/2009 14:38	JLJ - 5401 60th St.	Renter	262-656-7169				Yes	No									No	No
337272206	10/10/2009 14:39	JLJ - 6327 51st Ave.	Roy Eskridge	262-657-0274			18	Yes	No									No	No
337272311	10/10/2009 14:41	JLJ - 6117 51st Ave.	Richard Bergeson	262-657-1620			27	Yes	Yes	1', 4-5 times						X		Yes	Yes
337272464	10/10/2009 14:43	JLJ - 6121 51st Ave.	Irene Cummings	262-657-1886			23	Yes	Yes	3" to 2'(worst), 4 times last June, not as bad as the first time.						X		Yes	Yes
337272648	10/10/2009 14:44	JLJ - 6530 51st Ave.	Norberto Ocampo	262-657-1908				Yes	No										
337272778	10/10/2009 14:46	JLJ - 6401 54th Ave.	John Hopson	262-657-1938			19	Yes	No									Yes	No
337272924	10/10/2009 14:47	JLJ - 5505 63rd St.	Carolyn Sutler	262-657-6550			20	Yes	No									No	Yes
337273027	10/10/2009 14:48	JLJ - 6113 44th Ave.	Metallo	262-657-6778			10	Yes	No									No	No
337273108	10/10/2009 14:49	JLJ - 6339 46th Ave.	Shirley Czerniet	262-657-7620			31	Yes	No									No	No
337273227	10/10/2009 14:51	JLJ - 6407 47th Ave.	Thompson	262-658-0464			20	Yes	Yes				X		X			No	No
337273356	10/10/2009 14:53	JLJ - 6338 47th Ave.	Clara McMahon	262-658-1092			51	Yes	Yes	PAB - When first moved in, raised driveway which solved problems.			X		X			No	No
337273528	10/10/2009 14:54	JLJ - 6015 49th Ave.	Roy Johnston	262-658-1130			42	Yes	No									No	No
337273614	10/10/2009 14:55	JLJ - 6522 48th Ave.	Rebecca Stoyer	262-658-1764			5	Yes	No									Yes	Yes
337273715	10/10/2009 14:57	JLJ - 6407 48th Ave.	Mr. and Mrs. Gunderson	262-658-2411			40+	Yes	No									Yes	Yes
337273962	10/10/2009 14:59	JLJ - 5512 63rd St.	Beverly Richards	262-658-4231			13	Yes	No									No	No

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337274527	10/10/2009 15:09	JLJ - 4505 61st St.	Michael Carney	654-4923	262-605-2634	262705-3066	25+	Yes	Yes	1/2", approximately 1.5' around drain, once in 2003						X			Yes
337278678	10/10/2009 15:58	5303 61st Street	John Pawzun	262-764-4044			4	Yes	No										No
337975772	10/13/2009 14:23	JLJ - 4316 Harding Rd.	Laura Sebastian			262-914-1786	21	Yes	Yes	2" in 1992 (worst flooding) and seepage to 1/4" in 2009			X					No	Yes
337977117	10/13/2009 14:24	JLJ - 6206 50th Ave.	Thomas and Victoria Kuczenski	262-654-6114			32	Yes	No										
337978184	10/13/2009 14:28	JLJ - 6131 51st Ave.	Lois Turcotte	262-605-4078			20	Yes	Yes	Couple of inches sometime between 1998-2000 (whatever year Washington Street was flooded and ocvered with water). Nothing in June 2009							Does not remember	Yes	
338336445	10/14/2009 15:16	6323-50th Avenue	Domenico Casalena	262/654-0601		262/496-0615	46		No										No
339311465		6512 48 avenue	leann palmer				40												
339936532	10/20/2009 14:01	5315 66th Place - JLJ	Randi-Sue Kimmell	262-653-8923	847-808-5590 x 19030	847-372-3229	2	Yes	No										
339937392	10/20/2009 14:03	4725 Harding Rd - JLJ	Mark Sevey	262-656-1063			17	Yes	No									No	No
339938100	10/20/2009 14:15	5211 65th Place - JLJ	Rodney and Karen Rasmussen	654-8232	654-8232	308-2877	18	Yes	Yes	1/4", 4 times cannot remember the years, but not this year					X		Improper grading	Yes	Yes
340542712		6115 43ave	Andrew schmidt	6577467			18	Yes	Yes	Not much						X		Yes	Yes
340680365	10/23/2009 6:58	6618 52nd Ave. - 256-017 - JLJ	Kathy Matrise	262-658-4408			30+	Yes	Yes	Soaking up with towels in south corner. Couldn't tell if a depth of water as replace towels often. Water comes through window wells. Neighbor cemented entire backyard which drains to my property.					X			No	Yes
340682569	10/23/2009 7:01	5527 64th St. - 254-030 - JLJ	Jeff Eastman	262-671-2064			1997, built in 1992 3rd person lived there	Yes	No										No
340757867	10/23/2009 10:35	6032 51st. Ave	John A & Mary V Wildenberg	262 652 9342	262 652 9342	262 914 8434	41	Yes	Yes	approx. 1982 and only one time						X		Yes	No
340854181	10/23/2009 15:33	6308 Pershing Blvd. - 152-022 - JLJ	Sylvia Jensen	652-0931			59	Yes	No									No	No
340854718	10/23/2009 15:34	6028 46th Ave. - 129-018 - JLJ	Altergott		262-652-3586		20	No											No
340964480	10/24/2009 12:57	6211 46 av	henry macak	262-654-2608			56	Yes	No										No
341197245	10/26/2009 8:52	6311 53 av	Lori/ Paul Schmaling	262-654-2364			16	Yes	No										Yes
341225267	10/26/2009 9:16	4455 - 68th Place	Gene Smith	262-652-4290	262-652-4290		47	Yes	Yes	4"
2009						X		No	No
341270250	10/26/2009 11:13	5611 48th avenue	michael fiore	2626539251	2626539251		11	Yes	Yes	Not more than a couple of inches; and only about two or three times since we bought the house.		X		X				Yes	Yes
341550893	10/27/2009 9:33	5314 - 61st Street	Beth Dinan	262-764-5155			4	Yes	No										Yes
341726522	10/27/2009 18:23	6022 49th ave					4	No											No
341858362	10/28/2009 8:35	6015 46th Ave. - 128-002 - JLJ					2	Yes	No									No	No
341861936	10/28/2009 8:59	6035 46th Ave. - 128-005 - AMS					10-12 years	Yes										Yes	
341869419	10/28/2009 11:49	6045 46th Ave. - 128-007 - AMS	Thomas and Karen Jabs	(262) 945-8538		(262) 945-8538	23 years	Yes	Yes	Depth - 18"
Happened in 1986 after that flood installed a taller stand pipe and bigger sump-pump.				X		X		Yes	Yes
341935404	10/28/2009 12:16	4520 61st St. - 128-009 - AMS					1 1/2 years	Yes	No									No	No
341935525	10/28/2009 12:00	5119 62 st					30	Yes	Yes	fountain cracks			X						
341946539	10/28/2009 12:18	600 74th Ave - 129-004 - AMS						Yes	No									No	No
341947168	10/28/2009 12:25	6007 47th Ave - 129-004 - AMS	Julia A Polanin	(262) 654-7182	same		7 years	Yes	No									No	No
341949822	10/28/2009 12:29	6037 47th Ave. - 129-009 - AMS					47 years	Yes	No										No
341951281	10/28/2009 12:36	6053 47th Ave - 129-001 - AMS					12 years	Yes	Yes	three times in june						X		Yes	Yes
341954188	10/28/2009 12:42	6038 46th Ave - 129-016 - AMS					Jun-09	No											
341956441	10/28/2009 12:44	4521 63rd St. - 152-001 - AMS					50 years	Yes	No									No	No
341957101	10/28/2009 12:50	4621 63rd Ave. - 153-001 - AMS					37 years	Yes	Yes	depth- 1"- everthing pulled up- 7 years. see page- June 19.			X			X			
341959354	10/28/2009 12:57	4607 63rd St - 153-024 - AMS	Randall and Rita Frye	(262) 652-2098	same	(262) 945-4412	7	Yes	No										
341962231	10/28/2009 13:00	6004 47th Ave. - 201-001 - AMS	Julia A. Polanin	(262) 654-7182	same		45 years	Yes	No									No	No
341962978	10/28/2009 13:03	4724 61st St. - 201-012 - AMS					5	Yes	Yes	once a couple years ago about 3" in depth.		X						No	No
341964060	10/28/2009 13:07	6044 47th Ave. - 201-017 - AMS					6 years	Yes	No									No	
341965260	10/28/2009 13:08	6033 49th Ave. - 202-009 - AMS						Yes	No										
341965755	10/28/2009 13:16	6039 49th Ave. - 202-010 - AMS					4 years	Yes	Yes	1/2" - 1 1/2" in depth. three times in 4 years.						X		Yes	Yes

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341968257	10/28/2009 13:19	6057 49th Ave. - 202-012 - AMS					3 years	Yes	Yes	6" in depth. about once every year last time in June, 2009.						X		Yes	Yes
341969244	10/28/2009 13:25	4810 61st St. - 202-014 - AMS					15 years	Yes	Yes	2" in depth. June - 10/20/2009				X				No	Yes
341971370	10/28/2009 13:27	6038 48th Ave. - 202-018 -AMS					30 years	Yes	No									No	No
341971870	10/28/2009 13:30	6020 48th Ave. - 202-021 - AMS						Yes	No										
341973021	10/28/2009 13:32	6013 50th Ave. - 203-006 - AMS					37 years	Yes	No									No	No
341973553	10/28/2009 13:34	6019 50th St. - 203-007 - AMS					25 years	Yes	Yes				X					No	No
341974457	10/28/2009 13:40	6023 50th Ave. - 203-008 - AMS					5 years	Yes	Yes								roots back-up	No	No
341976586	10/28/2009 13:46	6026 49th Ave. - 203-016 - AMS					37 years	Yes	Yes	8 - 10 years						X		Yes	Yes
341978357	10/28/2009 13:48	6018 49th Ave. - 203-018 - AMS					6 years	Yes	Yes									No	No
341979159	10/28/2009 13:51	6013 51st Ave. - 204-006 - AMS					20 years	Yes	No									No	Yes
341980080	10/28/2009 13:53	5006 61st St. - 204-013 - AMS					25 years	Yes	No	yes partially			X					No	No
341980763	10/28/2009 13:55	6034 50th Ave. - 204-015 - AMS						Yes	No									No	No
341981705	10/28/2009 14:08	6207 51st Ave. - 205-010 - AMS	Mrs. Jerome m Arsden	(262) 652-3546			50 years	Yes	No				X					No	No
341984669	10/28/2009 14:08	5426 63rd Street	David Ferkin	262-577-5178	847-249-3450	414-418-0500	5 months	Yes	No									No	No
341985037	10/28/2009 14:14	6138 50th Ave. - 205-017 - AMS					4 years	Yes	Yes	twice- June, 2nd year 2007		X	X					No	No
341986825	10/28/2009 14:18	6132 50th Ave. - 205-018 - AMS					Renter since April	Yes	Yes	Minor flooding			X					No	No
341987978	10/28/2009 14:21	6126 50th Ave. - 205-019 - AMS					5 years	Yes	Yes	once this June.					X			No	Yes
341988724	10/28/2009 14:28	6122 50th Ave. - 205-020 - AMS	Pat Kuzik	(262) 652-6381			37 years	Yes	Yes	12" none in June			X	X		X		Yes	
341993675	10/28/2009 14:46	6116 50th Ave. - 205-021 - AMS					17 years	Yes	Yes	Most - 12" depth. Rare						X		Yes	Yes
341995496	10/28/2009 14:49	6112 S. 50th Ave. - 205-022 - AMS					36 years	Yes	Yes			X				X			
341996161	10/28/2009 15:01	6107 50th St. - 206-002 - AMS					1 1/2 years rent	Yes	No										
342125133	10/29/2009 6:41	6130 49th Ave. - 206-016 - AMS	Richard Slagoski	(262) 654-4310	same		24 years	Yes	No									No	No
342129694	10/29/2009 6:45	6112 49th Ave. - 206-020 - AMS					33 years	Yes	Yes	31 years ago and 26 years ago. about 1' deep or so.						X		Yes	Yes
342131150	10/29/2009 6:49	6036 51st Ave. - 226-013 - AMS					5 years	Yes	Yes	June 2009 doesn't know cause							dot know	No	No
342132217	10/29/2009 6:53	6032 51st Ave. - 226-014 - AMS	John and Mary Wildenberg	(262) 652-9342	same	(262) 914-8434	41 years	Yes	Yes	1' depth back in 1982						X		Yes	
342135387	10/29/2009 7:03	5220 61st St. - 226-016 - JLJ	Miles				28	Yes	Yes	Trickle of water		X						No	
342137285	10/29/2009 7:09	5310 61st St. - 226-029 - AMS						Yes	Yes	5 years ago.							through backdoor - water main break and storm	No	No
342138287	10/29/2009 7:11	5111 60th St. - 226-036 - AMS	Funeral Home					No		n/a									Yes
342139058	10/29/2009 7:14	6224 54th Ave - 229-011 - AMS					Feb-09	Yes	Yes			X						No	Yes
342140028	10/29/2009 7:27	5416 63rd St. - 229-014 - AMS						Yes	Yes	6" - 2-3 years ago				X				Yes	
342144658	10/29/2009 7:29	6209 54th Ave. - 230-012 - AMS					6 years	Yes	No									No	Yes
342145582	10/29/2009 7:35	6225 54th Ave. - 230-015 - AMS					3 years	Yes	No										
342147109	10/29/2009 7:38	5308 63rd St. - 230-017 - AMS					34	Yes	No									No	No
342148058	10/29/2009 7:39	5216 63rd St. - 230-020 - AMS					30+ years	Yes	Yes			X						Yes	Yes
342148691	10/29/2009 7:43	5210 63rd St. - 230-021 - AMS					23 years	Yes	Yes					X				Yes	
342149846	10/29/2009 7:45	5105 62nd St. - 230-030 - AMS					13 years	Yes	No									Yes	Yes
342150496	10/29/2009 7:49	5113 61st St. - 231-001 - AMS					1+ years	Yes	Yes	minimal/partly				X				No	No
342151866	10/29/2009 7:53	5125 61st St. - 231-003 - AMS					20 years	Yes	No										Yes
342153003	10/29/2009 7:55	5209 61st St. - 231-005 - AMS					9 years	Yes	No									No	No
342153855	10/29/2009 8:02	6119 54th Ave. - 231-014 - AMS					5	Yes	Yes	March 2008 and twice in April; once when thaw and once during clearing.						X		Yes	Yes
342156118	10/29/2009 8:09	5322 62nd St. - 231-015 - AMS					6	Yes	Yes	June 2009 damp with puddles.can see dampness. 2nd time since lived here			X						
342158369	10/29/2009 8:13	5106 62nd St. - 231-026 - AMS					34	Yes	Yes	1' in depth. 5-6 tears ago. In June 1" (sump pump couldn't keep up)						X		Yes	Yes
342159823	10/29/2009 8:17	6114 51st Ave. - 231-028 - AMS					35	Yes	Yes	June 2009. pulled carpet						X			
342161356	10/29/2009 8:21	5304 62nd St. - 231-031 - AMS	Debbie and dale Puckett	(262) 764-0714	(262) 653-3336		10	Yes	No										
342163037	10/29/2009 8:23	5210 62nd St. - 231-034 - AMS						Yes	No										
342163851	10/29/2009 8:25	5204 62nd St. - 231-035 - AMS					32	Yes	No										
342164830	10/29/2009 8:27	6320 51st Ave. - 251-019 - AMS						Yes	Yes										
342165312	10/29/2009 8:28	6318 51st Ave. - 251-020 - AMS					1	Yes	Yes						X				
342165855	10/29/2009 8:33	5206 65th St. - 251-024 - AMS	Mike and Cara Cozine	(262) 652-4855	same		20	Yes	Yes	1/2" in depth. 3 times in 20 years. and once in seven yrs. usually with 4" of rain.			X	X				No	Yes
342167893	10/29/2009 8:36	5321 63rd St. - 252-001 - AMS	Clarene Osterguare					No											

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342168917	10/29/2009 8:39	5325 63rd St. - 252-002 - AMS	not occupied- repo house					Yes											
342170517	10/29/2009 8:44	6319 54th Ave. - 252-003 - AMS					15	Yes	No										
342172321	10/29/2009 8:50	5317 63rd St. - 252-025 - AMS	Joe Cepress				30+	Yes	No									No	No
342174558	10/29/2009 8:51	5515 63rd St. - 253-008 -AMS					7	No	No										Yes
342175240	10/29/2009 8:58	5521 63rd St. - 253-009 - AMS					Jul-09	Yes	Yes	puddles when moved in.							don't know	No	No
342178165	10/29/2009 9:01	5425 63rd St. - 253-011					40	Yes	Yes				X		X				Yes
342179437	10/29/2009 9:04	6324 54th Ave. - 253-014 - AMS					14	Yes	No									No	No
342180697	10/29/2009 9:06	5416 64th St. - 235-015 - AMS					10	Yes	No									No	No
342181257	10/29/2009 9:08	5504 64th St. - 253-017 - AMS					7	Yes	Yes	1-2 inches in June 2009. 7" a couple years ago had to rip up carpet.				X				No	No
342182202	10/29/2009 9:11	5516 64th St. - 253-019 - AMS					10 1/2 yrs	Yes	No	minor leaks from window wells					X				Yes
342183978	10/29/2009 9:17	5522 64th St. - 253-020 - AMS	Paul Dorfmeister	(262) 652-1253			12	Yes	No										No
342185510	10/29/2009 9:19	5425 64th St. - 254-015 - AMS						Yes											
342186249	10/29/2009 9:22	5415 64th St. - 254-017 - AMS					6	Yes	Yes	1" in June 2009			X					No	No
342187620	10/29/2009 9:24	5419 64th St. - 254-018 - AMS					15	Yes	No									No	No
342188307	10/29/2009 9:26	6408 47th Ave. - 276-017 - AMS	Tammy walter					Yes											
342189040	10/29/2009 9:28	6308 63rd St. - 277-001 - AMS					10	Yes	No									No	No
342190093	10/29/2009 9:31	6307 51st Ave. - 279-002 - AMS	Charles and Carol Allen	(262) 652-8237			40	Yes	No										No
342191369	10/29/2009 9:37	6308 50th Ave. - 279-025 - AMS					35	Yes	Yes				X						
342193726	10/29/2009 9:42	4819 harding rd. - 284-006 - AMS	Ned and Terry Kromm	(262) 658-3227	same	(262) 705-9433	29	Yes	Yes	1/2" every year for the last 15 years.						X		Yes	Yes
342195605	10/29/2009 9:46	6339 53rd Ave. - 251-031 - AMS	Rajko Djukic	(262) 652-8884			1+	Yes	Yes	1/4" in depth. property was drained towards house. Have regraded and had no problems since.								No	No
342197296	10/29/2009 9:52	4922 65th St. - 278-013 - AMS	Rajko Djukic	(262) 652-8884			15	Yes	Yes	clogged lateral that was fixed								No	Yes
342199506	10/29/2009 9:54	6402 47th Ave. - 276-018 - AMS	Pearl Koesser	(262) 657-5183			53	Yes	No										No
342200555	10/29/2009 9:58	6313 51st Ave. - 279-003 - AMS	Rodney and Amy Bakkala	(262)652-7196		(262) 705-9343	8	Yes	No									No	Yes
342570699	10/30/2009 12:40	6039 46th Ave	Hilda Reyes	262-652-0546	same as above		07 years apx.	No	Yes	The depth of Water was apx 3 ft and this has occurred apx 6 yrs prior and it was documentent - I was denied assistance because we were asked to take out a loan						X		Yes	Yes
342610366		4914 67th ave	Dustin Ankney	847 417 6080		847 417 6080	1	Yes	No					X				Yes	No
342753611		4314 Wilson Rd																	
342822159	11/1/2009 12:56	5118 61st St. - 226-028 - JLJ	Brian Wright	262-654-4262		262-496-4586	16	Yes	Yes	1 inch, 3 times (2005, 2006, 2008-last time just a little in house due to 2 sump pumps and other improvements)				X				No	Yes
342835559	11/1/2009 15:53	4020 68th Street	Pamela Ortiz	262-658-9273			25 years	Yes	Yes	3 inches in August 2007 and 6 inches in June 2009						X		Yes	Yes
342956845	11/2/2009 7:54	4615 - 60thStreet	Randy L Johnson	2626526089	2626526089		8	Yes	Yes	1/4 inch in spots. Any extended heavy rainfall. Every year.							Poor grading. Ground slopes toward house.	No	Yes
343055586	11/2/2009 11:38	6113 51st Ave. - 205-003 - JLJ	Jason Cox			262-515-2241	5	Yes	Yes	6", 2009						X		Yes	Yes
344397472	11/6/2009 8:51	6113 51st Ave - 205-003 - PAB	Jason Cox			262-515-2241	5	Yes	Yes	6-inches in 2009						X		Yes	Yes
344397474	11/6/2009 8:48	5125 62nd Street	Hank Chamblee	262-657-3130	262-657-3130	414-791-6664	26	Yes	Yes	0.5 inches, in 2008 and 2009				X		X		No	Yes
344400464	11/6/2009 8:56	4617 65th Street - 154-002 - PAB	Edna K. Wade				45	Yes	Yes	Covered Floor, Have improved drainage around home to prevent flooding in basement.							Poor Drainage		No
344401755	11/6/2009 8:58	4809 60th Street - 202-002 - PAB	Susan Albert	262-914-1007	847-405-1073	262-914-1007	50	Yes	No								N/A		No
344402688	11/6/2009 9:00	4919 60th Street - 203-022 - PAB	Connie Surdo	262-694-0729			15	No											Yes
344970638	11/9/2009 11:33	6317 46th Ave - 152-003 - AMS					1	Yes	Yes	a year ago			X						
344980854	11/9/2009 11:48	6320 Pershing Blvd - 152-020 - AMS					15	Yes	No									No	No
344987055	11/9/2009 11:50	6314 Perishing blvd - 152-021 - AMS						Yes	No										
344987844	11/9/2009 11:53	4614 65th St.						Yes	Yes						X		sanitary sewer line		
344988772	11/9/2009 11:58	4604 65th St. - 153-013 - AMS					20	Yes	Yes	1" - 1 1/2" in depth - june 2009			X						
344990871	11/9/2009 12:05	6320 46th Ave. - 153-021 - AMS					28	Yes	Yes								heavy rain some seepage	No	No
344994149	11/9/2009 12:19	5206 65th St. - 251-024 - AMS						Yes	Yes				X					No	Yes
344999201	11/9/2009 12:21	5122 65th St. - 251-025 - AMS					5	Yes	No										
345000806	11/9/2009 12:25	6339 53rd Ave. - 251-031 - AMS					1	Yes	Yes				X					No	No
345001594	11/9/2009 12:26	5320 63rd St. - 252-008 - AMS					10	Yes	Yes				X					No	No
345002309	11/9/2009 12:28	5314 65th St. - 252-010 - AMS					1	Yes	No										
345003070	11/9/2009 12:30	6410 53rd Ave. - 252-021 - AMS						Yes											
345003800	11/9/2009 12:32	5516 67th St. - 255-024 - AMS						Yes	No										

Session ID	Submit Time	Question 1: Street Address	Question 2: Name	Question 2: Home Phone Number	Question 2: Daytime Phone Number	Question 2: Cell Phone Number	Question 3: Number of Years at Current Address	Question 4: Do you have a basement?	Question 5: If you have a basement, have you experienced storm-related flooding in your basement?	Question 5: If yes, what was the approximate depth of water? How often and in what year(s) did this occur?	Question 6: Which of the following best describes the cause(s) of your storm-related flooding? (Check all that apply)	Question 6: Sump pump failure	Question 6: Foundation cracks/leaks	Question 6: Sump pump could not keep up	Question 6: Windows/ window well (egress)	Question 6: Floor drain (sewer water)	Question 6: Other, please specify	Question 7: At the time when you experienced water in your basement, was the street flooded in front of your house?	Question 8: Have you noticed storm-related flooding in your yard, a neighbor's yard, or in the street in front of your house?
345004587	11/9/2009 12:44	5216 67th St. - 256-013 -AMS - (townhouse)					30+	Yes	Yes			X						No	No
345009172	11/9/2009 13:04	5311 65th st.- 258-003 - AMS						Yes	Yes	8-10" in depth - June 19			X						
345017103	11/9/2009 13:05	5317 65th pl - 258-004 - AMS					30	Yes	No										
345017746	11/9/2009 13:13	5220 66th pl - 258-010 - AMS						Yes	No										Yes
345020943	11/9/2009 13:17	5307 65th St. - 259-007 - AMS					13	Yes	No									No	No
345022435	11/9/2009 13:26	5316 65th pl. -259-012 - AMS					5	Yes	Yes			X						No	Yes
345025900	11/9/2009 13:38	5306 65th pl. - 259-022 - AMS					11		No										Yes
345030978	11/9/2009 13:44	6341 49th St. - 276-008 - AMS					5	Yes	No										
345054983	11/9/2009 14:56	6547 50th Ave	Lorene Roth	N/A	(847) 688-3680 ext 7134	(639) 697-6745	22-Jan-09	Yes	Yes	9 Inches from June 19, 2009 storm							Too much water for sewer	Yes	Yes
345190110	11/10/2009 6:43	6402 47th Ave. - 276-018 - AMS					53	Yes	No	some flooding in the 1950's									No
345198369	11/10/2009 6:48	6313 49th Ave. - 277-005 - AMS					end of September 2009	No										No	No
345200069	11/10/2009 7:08	6325 49th Ave. - 277-007 - AMS					20	Yes	No									No	No
345207118	11/10/2009 7:11	4814 65th St. - 277-016 - AMW						Yes	No										
345208101	11/10/2009 7:13	4804 65th St. - 277-017 - AMS					august 1st 2009	Yes	No				X						
345209076	11/10/2009 7:16	6350 48th Ave.						Yes	No										
345211497	11/10/2009 7:26	6344 48th Ave. - 277-023 - AMS					renting two months	Yes		don't know								No	
345213762	11/10/2009 7:32	6322 50th Ave. - 278-006 - AMW					12	Yes	No									No	No
345216478	11/10/2009 7:36	6337 50th Ave. - 278-008 - AMS					22	Yes	No										
345218168	11/10/2009 7:40	6330 49th Ave. - 278-019 - AMS					oct-2009 renting	Yes	No	puddles			X						
345220112	11/10/2009 7:45	6324 49th Ave. - 278-022 - AMS					22	Yes	No	seepage									
345221728	11/10/2009 7:53	6406 50th Ave. - 279-015 - AMS					4	Yes	Yes						X				Yes
345224922	11/10/2009 7:58	6552 50th Ave. - 280-020 - AMS					59	Yes	Yes						X			Yes	Yes
345226704	11/10/2009 8:02	6520 50th Ave. - 280-024 - AMS					4-5 years	Yes	Yes	6-8 inches in depth - June 2009 and in the spring of 2009.			X			X		Yes	No
345228295	11/10/2009 8:05	6516 50th Ave. - 280-025 - AMS					24	Yes	Yes	6 inches one time about 20 yrs ago.						X			
345229836	11/10/2009 8:07	6611 50th Ave. - 281-013 - AMS					30	Yes	No										
345230862	11/10/2009 8:09	6608 49th Ave. - 281-019 - AMS					8	Yes	No									No	No
345231692	11/10/2009 8:13	4803 65th St - 282-001 - AMS						No											
345233594	11/10/2009 8:17	4809 65th St. - 282-002 - AMS						No											
345235712	11/10/2009 8:20	6523 49th Ave. - 282-007 - AMS					less that 1 year - renting	Yes	Yes	seepage 1 inch in June 2009									
345237371	11/10/2009 8:23	6529 49th Ave. - 282-008 - AMS					1 yr. renting	Yes	No										
345238317	11/10/2009 8:27	6533 49th Ave. - 282-009 - AMS					3	Yes	No										Yes
345240223	11/10/2009 8:34	6605 49th Ave. - 282-014 - AMS					36	Yes	Yes	6 inches in depth about 30 yrs ago.						X			
345243331	11/10/2009 8:39	6516 48th Ave. - 282-025 - AMS					5	Yes	No										Yes
345245632	11/10/2009 8:41	6506 50th Ave. - 280-027 - AMS					rent just moved in												
345246300	11/10/2009 8:43	5215 67th St. - 326-008 - AMS					21	Yes	Yes	minor about 1 inch in 2008.		X							
345247898	11/10/2009 8:46	6043 51st St. - 204-012 - AMS						Yes											Yes
345248758	11/10/2009 8:54	4820 65th St. - 277-015 - AMS						Yes	Yes	1 inch depth on June 19, 2009					X				
345628187	11/11/2009 11:46	5304 61st St	Martin Dombkowski	262-764-9521	n/a	n/a	3	Yes	Yes	1-2 inches, once in 2008, twice in 2009				X				No	Yes
345818592	11/12/2009 5:46	4822 Harding Rd. - 282-015 - JLJ	Jamie Kelnhofer	654-4392			4	Yes	No										Yes
345819236	11/12/2009 5:48	4618 Wilson Rd - 155-014 - JLJ	Robert Adams	262-652-5164	262-652-5164	202-308-3893	20+	Yes	Yes	1/4", every year			X		X		Poor grading	Yes	Yes
346167819	11/13/2009 7:01	5206 65th Pl. - 259-033 - JLJ	Pamela Leonard	262-654-1236	262-654-1236		7	Yes	Yes	2", April 2004				X				Yes	Yes
346168347	11/13/2009 7:02	6336 50th Ave. - 279-027 - JLJ	William Mateja	654-1976	654-1976		25	Yes	No										No
346656143	11/16/2009 6:15	5210 65th Street	Jennifer Westcott	(262)764-0248			4	Yes	No								N/A	No	No
350636262	12/1/2009 16:59	6766 55th ave	Olga Rivera	262-658-1273				Yes	No			X						Yes	Yes
352505563		4726 71st St	John Strube	262-705-1468			16	Yes	Yes	1 to 2 inches. One time and 2009					X			No	Yes

Session ID	Question 8: If yes, how often and in what year(s) did this occur?	Question 9: If you have noticed storm-related flooding in your yard, a neighbor's yard, or in the street in front of your house, describe location, limits, and depth of flooding with reference to landmarks (home, steps, curb, fire hydrant, tree, etc.).	Question 10: How is the foundation of your home drained?	Question 10: Other, please specify	Question 11: Where does your sump pump discharge to?	Question 11: Other, please specify	Question 12: Do you have a sanitary sewer backwater valve?	Question 13: Do you have standpipes or plugs in your basement floor drains?	Question 14: Have you experienced nonstorm-related flooding?	Question 14: If yes, describe reason why	Question 15: Representatives of the City will be canvassing the neighborhood on Saturdays in October to obtain feedback from residents that do not respond to this survey. We ask that you encourage your neighbors and friends in the neighborhood to respond to the survey. If you would like a representative to stop by your home during the canvassing, please check yes in	Question 16: Please provide any additional comments/information you have in the space below.
331712330			Connected to sump pump		Yard/street		No	No	No		No	
331717784			Connected to sump pump		Yard/street		No	No	No		No	
331723748			Sanitary sewer				No	No	No			
331740905	Yes in my yard , anytime the is a heavy or constant rain .	Back yard flooding on east edge of my lot line and east edge of my detached garage	Connected to sump pump		Direct connection to sanitary sewer lateral		Yes	No	No		No	
331778063			Connected to sump pump		Yard/street			No	No		No	When it rains the sump pump runs non stop as well as the dehumidifier.
331851773			Connected to sump pump		Direct connection to storm sewer		No		No		No	
331938383	Only during heavy downpours have I seen water accumulate in the street. I thin it was between 2004 and 2008	1 to 2 inches of water accumulated in the intersection of 54Av and 66Pl and went for about 50 feet in each direction. Also, my neighbor 2 houses to the east has had lots of water in her basement	Connected to sump pump		Yard/street		No	No	No		No	
331939265	Neighbor's back yard. Spring & Summer 2008	3-4 inches deep, in low spots of back yard (center)	Connected to sump pump		Yard/street		No	No	No		No	
331963731	n/a	intersection of 50th ave and 61st st.
water up over curb.	Connected to sump pump		Yard/street		No	No	No		Yes	if my sump pump were to fail and i am not home i would have water problems
331985209			Do not know		Not applicable, do not have a sump pump				No		No	
332063994		Neighbors back yard southwest of our address. floods up to utility box in our southwest corner. There is a drain pipe that was installed by city next to the utility box that does drain some of the water	Connected to sump pump		Direct connection to storm sewer		No	No	No		Yes	
332073396			Do not know		Other, please specify	This was done this year			No		Yes	The 2 questions I did not answer about the valve or basement drain I do not know the answer.
332103179			Do not know		Not applicable, do not have a sump pump				No		No	
332345735	Both my neighbor and myself have flooding in our backyards with every heavy rain.	In mine and my neighbor's backyard, we have flooding up to a couple inches deep (depending upon the amount of rain). This occurs in a low area that spreads across our mutual yards. The flooding area begins approximately 3 -4 feet from the houses and goes back into the yards	Sanitary sewer		Not applicable, do not have a sump pump		Yes	Yes	No		No	
332354474	Very large puddles during and after heavy rains. Flooding between the houses and between the garages.	Flooding between the houses and between the garages.	Connected to sump pump		Direct connection to storm sewer		No	No	No		No	Storm sewer connection was just put in place in Sept. 2008.
332368803	REALLY YOUR KIDDING HOW DO WE REMEMBER HOW OFTENED AND WHAT YEARS,NOT THIS YEAR YET! WE HAVE SO FAR BEEN LUCKY THIS YEAR.	I would'nt know about other neighbors	Connected to sump pump		Yard/street			Yes	No		No	WHEN I EXPLAINED TO YOU BEFORE ABOUT WHEN THEY WERE CLEANING THE SEWERS ON OUR STREET WE HEARD THIS BIG BANG NOISE AND WENT INTO THE BASEMENT AND WERE SHOCKED TO SEE SEWER WATER COMING UP THOUGH OUR TOLIET,DID ALOT OF DAMAGE TO OUR BASEMENT.I RAN OUTSIDE TO TELL THE CITY GUYS TO STOP CLEANING IT WAS COMING IN TO OUR BASEMENT,AND WE EXPECTED THE CITY TO PAY FOR ATLEAST THE CLEANUP HAD TO GET A LAWYER,EVEN AFTER YOU KNEW IT WAS BECAUSE THE SEWER HOLE DOWN THE STREET WAS FILLED WITH A HUGE BALL OF CRAP.I WAS SO ANGRY AND I'AM SURE IT'S STILL MIGHT BE ON RECORD,I REQUISTED A SUPERVISOR TO COME AND SEE OUR BASEMENT,HE SAID HE THOUGHT THE CITY WOULD TAKE CARE OF THE MESS IN OUR BASEMENT,THAT NEVER HAPPENED! SURPRISED! NOBODY EVER CARED,SO IF YOUR
332412442		no	Connected to sump pump		Yard/street		No	No	No		No	
332564710			Connected to sump pump		Yard/street			No	No		No	
332787632			Exterior perimeter drain tile				No	No	No		No	
332873248												
333091960			Connected to sump pump		Yard/street		No	No	No			
333229550	After we get betweeen two to three inches or more of rain. 2000/2001/2002/2003/2004/2005/2006/2007/
2008/2009	In the front of our house in the street by the sewer manhole cover. Anywhere from 6-12" of water or more in a few cases going up the driveway approach to our side walk. And accross the street up to my neighbors front steps	Exterior perimeter drain tile		Yard/street		No	Yes	No		No	n/a
333346776			Connected to sump pump		Yard/street		No	No	No			I checked "no" to a sanitary sewer backwater valve, not sure what this is? So I'm assuming we don't have it.
333607478	once in 2009	none	Connected to sump pump		Yard/street		Yes	No	No		No	none
333615124	anytime there is a heavy rainfall. It has been worse the last couple of years.	my neighbor's yard has completely flooded a couple of times, he dug a trench in spring to let some of the water drain to the street. My property that is next to him floods a little, approx. 1-2 inches deep and approx 6 feet into the yard. The flooding occurs just past our large tree on the east side of the property.	Connected to sump pump		Yard/street		No	No	No		No	I believe why we have not had any flooding is that our home was well excavated, however several of our neighbors have had flooding issues.
333872669			Connected to sump pump		Yard/street		Yes	No	No		No	
333876817		South of my home in the street			Yard/street				No		No	
334051611	3 times	back yard	Do not know		Yard/street		Yes	Yes	No		No	In the bad storm where it seemed everyone flooded we were just fine.
334064008	6/2000 and 6/2009	around perimeter of backyard near property line with water depth 1-2 inches.	Connected to sump pump		Direct connection to storm sewer		No	No	No		No	
334135652	The street sometimes floods due to what seems like the street drains are clogged or full	rain water drain area in front neighbors driveway to the left of us (if you are facing the street) also the neighbor across the street (Rameys)	Interior perimeter drain tile		Yard/street		Yes	No	Yes	The basement floor drain has backed up sewage a few other times when it was not raining. Neighbors have told me this happens if excess toilet paper gets clogged in the backwater valve. We are more careful with flushing excess toilet paper and have not experienced this since.	Yes	We have an empty, inground pool in our backyard. We haven't used it in over 3 years and plan to fill it in next spring. I am not sure if this helps or hurts our flooding problems as I'm not certain where it drains to. The previous owner of the home did many non-traditional "fixes" to the home so I don't know if it drains into the streets, sewer or what it does. It might be something worth looking into further by the

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335333399			Do not know		Not applicable, do not have a sump pump				No		No	I have gotten water seeping into my basement when back yard is saturated 2 times in past 2 years
335346888			Do not know		Not applicable, do not have a sump pump		Yes	No	No		No	
335355228	Every spring standing water back yard		Sanitary sewer		Not applicable, do not have a sump pump		No	No	No		No	
335446621	Still occurs in early spring	It would be in the side yard between our houses, just behind thr houses. I don't know the depth, I never went over to measure.	Connected to sump pump		Yard/street			No	No		No	I no longer have a problem. I hauled in dlack dirt and raised my yard. Now the water sits in my neighbors yard.
335761037			Sanitary sewer		Not applicable, do not have a sump pump		Yes	No	No		No	
335765658			Sanitary sewer		Yard/street		No	No	No		No	
335798666	2009 - X1	Back Yard - about 1-2 inches	Not applicable, do not have basement		Not applicable, do not have a sump pump				No			
335881017			Connected to sump pump		Direct connection to storm sewer		No	No	No		No	
335902952	Every time it rains very hard.	The backyard floods with heavy rainfall.	Sanitary sewer		Not applicable, do not have a sump pump		No	No	No		No	
336146818	Heavy rains or snow melt, the storm drain is overwhelmed. My neighbor and I keep the drain cleaned.	backs up from edge of street to sidewalk, worst case	Do not know		Not applicable, do not have a sump pump		No	No	No		Yes	
336365419	with heavy rain' most every heavy rain	curb	Exterior perimeter drain tile				No	No	No		No	
336429223			Exterior perimeter drain tile						Yes			
336474739	During the year when we had the 3-4 feet of water in the basement.	The garbage we had set out was swept away; water was over the sidewalk, no curbs were visible.	Connected to sump pump		Yard/street		No	No	No		No	
336971792			Do not know		Other, please specify	Not sure if I have one, I don't think so		No	No		No	
336973497	At time of any large rain event (2" or more in 24 hours)	In backyards upto 6" deep	Connected to sump pump		Yard/street		No	No	No		Yes	
336975058	June 19, 2009 during the heavy rain storm	61st St. and 51st Ave. - All 4 storm sewers could not handle the rain water.	Exterior perimeter drain tile		Not applicable, do not have a sump pump		No	No	No		Yes	
336976416			Other, please specify	That drains into drain	Not applicable, do not have a sump pump			No	No			
336977901	Once, I don't remember which year.	It was flooded from the bottom of the corner on 59th Ave. and 61st St. on the road up to our drive.	Exterior perimeter drain tile		Not applicable, do not have a sump pump		No	No	No		No	
336979025	Every year	The intersction of 51st Ave. and 61st St. will completely flood every time we get a heavy rain.	Connected to sump pump		Yard/street		No	Yes	No		No	
336979855	Last year	Acroos the back of the house, extending into the yard.	Connected to sump pump		Yard/street		No	No	No		No	
336980619			Connected to sump pump						No		No	
336981122	Major snow melt in Jan 2009 backyard flooded, and flood on June 18-19 street flooded	When melting or flooding occurs in county water will run down my driveway and collect on neighbors sidewalk (all winter and spring). Any major flooding or storm the corner of 51st Ave. and 61st St. will flood.	Do not know		Yard/street		Yes	No	Yes	(See above also) Have complained to the street department-public works and mayor about poor patch work-street repair done in front of my house (6108 51st Ave.). Neighbor complained also.	No	Visit not necessary, Ed St. Peter inspected home and basement.
336982987			Connected to sump pump		Yard/street		No	No	No		No	
336983396	Winter 2008-2009	Between 2 houses/from backyard to street flowing into street.	Exterior perimeter drain tile		Yard/street		No	No	No		No	
336984021			Connected to sump pump		Yard/street			No	No		No	
336984721	Heavy rain	JLJ - Could not interpret drawing/lines (67" from 6J?????)	Do not know		Yard/street		No	No	No		No	
336986329			Connected to sump pump		Yard/street			No	No		No	
336987115	Once, June 19, 2009	Up to the first porch step	Connected to sump pump		Yard/street		No	No	No		Yes	
336987783		Huge puddles at end of 48th Ave. and 63rd St.	Do not know		Yard/street		No	No	Yes	Tree roots	No	
336988401	Every heavy rainfall	Corner of 63rd St./47th Ave., over curb, past fire hydrant, about 5 ft from window wells.	Other, please specify	Connected to sump pump, san sewer, ext drain tile	Yard/street			No	No		Yes	
336989564	When ever it rains heavy	Home steps	Other, please specify	Sanitary sewer, exterior drain tile	Yard/street		No	Yes	No		No	
336990524			Sanitary sewer		Not applicable, do not have a sump pump			Yes	No		No	
336991024			Connected to sump pump		Yard/street		Yes	No	No			
336991487	Back north corner of lot		Connected to sump pump		Yard/street		No		No		No	
336992089	After a major rainfall there is water at the end of the raod and neighbor's yards.	My yard and street (JLJ - 46th Ave.)do not flood, the neighbors to the south and the road to the south (JLJ - 61st St.) flood after a major rainfall.	Do not know		Not applicable, do not have a sump pump		No	No	No		No	
336994397	Everytime it rains hard, the last time was in June.	That was over a portion of my curb, but the homes south of mine had flooded front yards up to their front steps on the east side of the street on 46th Ave.	Do not know				No	No	No		No	JLJ - Neighbor (6021 46th Ave.) provided sketch along with his paper survey.
336995502			Connected to sump pump		Yard/street				No		No	
336996091			Other, please specify	Do not know, connected to sump pump, ext drain tile	Yard/street							JLJ - Provided sketch of house and location of egress window. Water ingress from window wells due to surface grade problem.
336997102	First time in 5 years	See sketch.	Connected to sump pump		Yard/street		No	No	No		Yes	Provided sketch. We only had 4" of water because I was pumping it out with an extra pump placed over the floor drain. I had this pump in operation for 2 hours and removed all water in 2 hours. There were pieces of feces on my basement floor. JLJ - Drawing shows water coming up through manhole at intersection of
337015479		8" of water of streets 65th St. and 40th Ave. Water to sidewalk on 65th St. all the way down to 39th Ave.	Other, please specify	Sanitary sewer, exterior perimeter drain tile	Not applicable, do not have a sump pump		No	No	No			
337017192	Yearly, early summer	See sketch. 6"-8" in street, 1"-3" on curb and 20' of sidewalk from corner towards 39th Ave. Sanitary Sewer runs on a slight eastward angle from floor drain to street. Foundation/outside drain tiles also connect into sewer line.	Other, please specify	Sanitary, exterior perimeter drain tile	Not applicable, do not have a sump pump		No	No	No			JLJ - Very detailed sketch provided.
337019307	When it rains hard.	Backyard - back to middle of yard floods shed.	Connected to sump pump		Yard/street			No	No		No	
337021256			Sanitary sewer		Not applicable, do not have a sump pump		No	No	No		No	

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337023498			Exterior perimeter drain tile		Not applicable, do not have a sump pump		No	Yes	No		Yes	
337025329	Corner intersection was flooded. Whenever it rains (now). Normal city response, install portable pumps at the corners of 46th Ave. and 61st St.	This area has had received flooding for at least 20 years - 46th Ave. and 61st St. Drain in street, you can hear flowing water (rushing) 24 hours-7 days a week.	Exterior perimeter drain tile		Not applicable, do not have a sump pump		Yes	Yes	No		Yes	Question: Can you confirm 3' drain tile from 63rd St. and 49th Ave. to 46th Ave. and 61st St. thru park land acutally works? Comments: Leaching into 46th Ave. sidewalk for years. Told that 30 years ago 3' drain converted from dump to park. What is wrong
337029622	1995/2009	Backyard hear property to rear, usually 6 inches or more curb to storm sewer	Do not know		Not applicable, do not have a sump pump		No	No	No		No	One way to clear the flooding problem is toclean the storm sewers every so often. The storm sewers at 61st St. and 44th Ave. have never been cleaned in the 14 years I have lived at this address
337031866		During really big rains, water accumulates in the lowest spot of the backyard - well away from all buldings.	Do not know		Not applicable, do not have a sump pump				No		No	
337032558					Not applicable, do not have a sump pump		No		No		No	
337032952		Don't know - moved in after flood dates.	Do not know		Not applicable, do not have a sump pump			Yes	No		No	
337033725			Exterior perimeter drain tile				No	No	No			
337034125		With heavy rains, water does flow and drain away.	Sanitary sewer				No	No	No		No	
337034534			Connected to sump pump		Yard/street		No	No	No		No	
337034882	Intersection with 61st St. (and 51st Ave.)		Exterior perimeter drain tile		Not applicable, do not have a sump pump		Yes	No			No	
337035515	Only when heavy rain, off and on over my 32 years living here.	Back your and our garage always has water when it rains hard. 1/2" or better in garage deeper in yard in low areas of yard. Had new driveway put in this year to help keep rain from building up behind our house	Connected to sump pump		Basement floor drain				No		No	Will be out of town, but would like future info. on project.
337036652			Do not know		Not applicable, do not have a sump pump		No	No	No		No	
337037223			Not applicable, do not have basement		Not applicable, do not have a sump pump		No	No	No		No	
337037616	Late '70's early '80's	Curb level to middle of street from 5114 middle of block by sewer drain.	Connected to sump pump		Yard/street			Yes	Yes	Sump pump backup and failure		
337038974	Only 1 time.	Flooded up to curb on corner of our block. The sewer there and across the street from our sewer has not been cleaned.	Connected to sump pump		Yard/street		No	No	No		No	
337040117			Connected to sump pump		Yard/street		No	No	No		No	
337040514			Connected to sump pump		Yard/street		Yes	No	No		No	Sketch of home - sump pump drains to backyard.
337041103			Sanitary sewer				No	No	No			
337041436			Do not know		Not applicable, do not have a sump pump		No	No	No			
337042096			Other, please specify	Sanitary sewer, connected to sump pump	Yard/street		Yes	No	Yes	4", 1993, sewer plugged with roots	No	
337042944	Occurs when we have heavy rainfall	From back property line to center, 2-3 inches at times.	Other, please specify	Sump pump, do not know	Yard/street		No	No	No		No	Sketch attached. 2"-3" water house foundation, sump pump location in basement sent out front of house to curb.
337044070					Not applicable, do not have a sump pump		No	No	No		No	
337044467	2000, 2009, and another year also, and every heavy rain storm of more than 3 inches.	Our backyard floods and forms a huge swim pool. We pump this out when done raining, occurs often.	Do not know		Not applicable, do not have a sump pump			Yes	No		Yes	We purchased 2 portable pumps to use for backyard and also basement, so we did not get as deep as all the neighbors.
337046718	Approximately almost every year	Water builds up in street above curb, water shoots out of manhole cover in street, basement floods.	Other, please specify	Do not know, perimeter drain tile	Not applicable, do not have a sump pump		Yes	Yes	No		Yes	Have had a standpipe for last 3 years. Water builds up in street up over curb-water shoots out of south manhole cover. Basement floods approximately 6". In the 19 years I have lived here I have flooded about 15 times, some worse than others.
337056304			Connected to sump pump		Yard/street				No		No	My sump pump operates from late winter to late spring every 2-3 minutes.
337057286			Do not know		Not applicable, do not have a sump pump			No	No		No	
337057657											No	
337058040	Our garage and driveway floods every year that we've lived here.	Neighbors backyard next to garage has standing water next to our garage. Water seeps in garage from floor cracks and neighbors and down driveway. Water collects on side of house which also has to be pushed down our driveway, seeps into basement.	Other, please specify	Sump pump, exterior perimeter drain tile	Direct connection to storm sewer		No	No	No		Yes	Sketch attached. Had mini storm sewer put in street in 2008. We bailed and ran up to Lowe's and purchased a utility pump and ran both sump pump and utility pump and bailed until under control. If electricity would have failed we would have been at a total loss.
337060396	Whenver my basement floods		Connected to sump pump		Yard/street		No	No	No		No	
337061391		JLJ - Sketch attached. Sketch shows flooding area in backyard (near rear addition/crawl space) fo 1/4"-1/2" depth around tree.	Connected to sump pump		Yard/street		No	No	No		No	Sketch attached.
337063651			Do not know		Not applicable, do not have a sump pump		No	No	No			
337064035			Exterior perimeter drain tile		Not applicable, do not have a sump pump		No	No	No		No	
337064425	Not too often.	It is minimal flooding undr the tree in the rear yard.	Do not know		Not applicable, do not have a sump pump		No	No	No		No	
337065126			Do not know		Not applicable, do not have a sump pump				No			
337065572			Sanitary sewer		Not applicable, do not have a sump pump		No	No	No		No	Please contact my daughter: Charlene Smith, 4717 70th St.
337066621			Do not know				No	No	No		No	
337066975	Only down the block		Do not know		Not applicable, do not have a sump pump			No	No			
337067552			Connected to sump pump		Yard/street		No	No	No		No	
337067887			Exterior perimeter drain tile									

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337068340			Connected to sump pump		Yard/street		No	No	No		Yes	I know our basement doesn't flood, but since we are so close to houses that do it is a concern; because we are wondering if our basement one day will
337069144			Connected to sump pump		Direct connection to storm sewer							
337069721			Other, please specify	Sump pump, int/ext perimeter drain tile	Yard/street		Yes	No	No		No	
337070272	The corner of 46th Ave. and 61st St., all years during severe rain	The corner of 46th Ave. and 61st St.	Connected to sump pump		Yard/street			No	No		No	
337070889	June 2006, June 2009	At the corner of 49th Ave, 67th St. and Harding Rd.	Do not know		Not applicable, do not have a sump pump		No	No	No		No	
337071664			Sanitary sewer					No	No		No	
337072234	June 2009, June 2009, mid 90's. Street flooded several other times.	Shelly, you have photos and have been to the area that has flooded.	Exterior perimeter drain tile		Not applicable, do not have a sump pump		Yes	Yes	No		Yes	Purchased standpipe/plug after 6/2009.
337085298			Other, please specify	Sanitary sewer, drain tile			Yes					
337085841			Connected to sump pump		Yard/street			No	Yes	Tree roots had penetrated the line between the house and street.	No	
337087055			Interior perimeter drain tile		Not applicable, do not have a sump pump		Yes	No	No		No	
337087425	Couple times during heavy rains	Southwest corner of backyard extending over cement patio and northwest yard between my and neighbors garage. Several inches of water each time	Connected to sump pump		Yard/street		No	Yes	Yes	Once during a watermain break years ago.		Had standpipe/plug installed after last rain (June 2009).
337088297			Other, please specify	Land slants away from home, drains in all directio			No	No	No		No	
337089265			Exterior perimeter drain tile		Not applicable, do not have a sump pump		No	No				
337089882		62nd Ave./52nd St. has backups, once car has been frozen in due to water freezing.	Exterior perimeter drain tile		Yard/street		No	No				JLJ - She wishes city would come by and pick up leaves in the fall off of the curb so that people did not have to put them in bags. Also stated that area was built on swamp. Does not like how poeple have routed the sump pump discharge pipe to stick out from the side of the curb and discharge into the street. It makes a mess of ice and water across her driveway because it freezes there.
337091872		1"2" of standing water in backyard along garage.	Exterior perimeter drain tile		Not applicable, do not have a sump pump		No	Yes				JLJ - Watermain break has undermined street, so there is a low point on street. Neighbor to the north and across the street have had water in their basements
337093259					Not applicable, do not have a sump pump							JLJ - People down the hill to north and south on 51st Ave. get flooded.
337093946			Connected to sump pump		Yard/street		No	No	Yes	Roots in sanitary line.		JLJ - Knee deep at 61st St./50th Ave. Neighbors flood at bottom of hill. She cleans leaves out of her gutters to help. She also has a very steep front yard, has sump pump hose extension to street and water ponds in backyard.
337096721			Do not know		Yard/street		No	No				JLJ - Neighbors have had water in their basements in the past. 5"-6" in her yard, but couldnot give reference points
337097312												JLJ - Mr. Hart does not flood and will not fill out the survey. He is on top of hill. Neighbors at bottom of the hill flood.
337097757												
337098030		Floods constantly at intersection of 47th Ave. and Harding Rd.	Exterior perimeter drain tile		Not applicable, do not have a sump pump		No	Yes				
337098491					Not applicable, do not have a sump pump							JLJ - Did not want to answer survey, this was as much information as I could get out of him.
337099032		JLJ - End of street floods at Harding Rd./47th/67th approximately 6" above curb. It also does this in the spring and then ices over, makes it dangerous.	Exterior perimeter drain tile		Not applicable, do not have a sump pump		No	No				JLJ - Mr. Salata commented that the area used to be an underground river.
337133333												
337133719			Connected to sump pump		Yard/street				No			
337133912	All the time when it rains hard.	In the intersection of 49th Ave./61st St. the water has gone above the boulevard over the sidewalk at our neighbors home and the water will reach our driveway approach.	Do not know		Not applicable, do not have a sump pump				No		Yes	
337134608			Other, please specify	Sump pump and perimeter drain tile	Yard/street			No	No			
337135319			Other, please specify	Sump pump and perimeter drain tile	Yard/street		Yes	Yes	Yes	Switch on sump pump broke.	No	
337135701			Connected to sump pump		Yard/street			No	No		Yes	
337135906			Other, please specify	Sump pump and perimeter drain tile	Yard/street				No			SW corner of basement. Told the sediment from dirt builds up in drain tiles forcing the water up into basement. No issues on June 19, 2009
337136339	A least once a year after significant rain in front of house.	Up to level of curb-storm sewer in that location overwhelmed.	Not applicable, do not have basement		Not applicable, do not have a sump pump		No	No	No			Sketch attached.
337136786	Last year and this year.	From the curb to approximately 10' from the manhole cover in the cul de sac(sketch attached). Water did not go over curb.	Connected to sump pump		Direct connection to storm sewer			No	No			Sketch attached.
337137204	About once per year.	Sketch attached. Flooding has occurred at intersection of 49th Ave./61st St. Depth of water was over bumper of cars.	Sanitary sewer		Not applicable, do not have a sump pump		No	No	No		Yes	Representative can stop if necessary.
337137750			Exterior perimeter drain tile				No	No	No			
337137975	2009, 2000, 1999, 1997		Other, please specify	Sump pump, sanitary sewer, interior drain tile	Yard/street		Yes	Yes	No		Yes	
337138381							No	No	No			New owners as of June 2009.

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337138628	Heavy rain, March/June 2009, 2008, 2007, 2006	Backyard outside of house 2" most of yard.	Connected to sump pump		Yard/street			No	Yes	Heavy snow fall melting in warm conditions. It was repaired leak March 2009 - did not flood on June 19, 2009 at all.	Yes	Sketch attached. The water was coming from west/north sides of walls coming into bathroom/extra room/laundry room approximately 3" in bedroom/extra room/laundry room. Backyard all was several " deep. I also installed drain tile in backyard to go to street. I am renting out property at this time. Renter Jim and Denise Usinger will discuss problems on October days in Saturday visits. New Address: 5812 Winthrop Ave, Racine WI
337154762			Sanitary sewer				No	No	No		No	
337155382			Exterior perimeter drain tile		Not applicable, do not have a sump pump		No	No	No		No	
337155860	8-10 times during heavy rains	From dip in road up to our driveway-area field drainage to dry creek bed that runs under road (especially 6533 51st Ave.)	Not applicable, do not have basement		Not applicable, do not have a sump pump		No	No	No		Yes	
337156421			Sanitary sewer				No	No	No		No	
337156700			Exterior perimeter drain tile		Not applicable, do not have a sump pump		No	No	No		No	
337156968			Connected to sump pump		Yard/street		No	No	No		No	
337157098					Not applicable, do not have a sump pump		Yes	Yes	No			
337157349			Connected to sump pump		Yard/street		No	No	No		No	VAW - City stopped by and said they needed to put in a valve in future to prevent sanitary sewer backup.
337157578			Connected to sump pump		Yard/street		No	Yes	No		No	
337157725			Other, please specify	Sump pump and perimeter drain tile	Yard/street		Yes	No	Yes	Sanitary backup-toilet back. Tree roots.	No	VAW - Halfway up doors-Christmas Lane (west of his address and behind Pick & Save), 3' by Pick & Save and into Pick & Save.
337158130			Other, please specify	Sump pump and perimeter drain tile	Yard/street		No	No	No		No	VAW - Had a man come into repair, installed sump pump and drain tiles. Haven't had a problem since.
337158366			Do not know					Yes	No		No	
337158586	54th Ave./63rd St.		Other, please specify	Sump pump and perimeter drain tile	Yard/street			No	No		No	
337158950	Years back to your garage.		Sanitary sewer		Not applicable, do not have a sump pump		No		No		No	
337159162	Comes down from the church, no standing water. Stream down curb.		Other, please specify	Sump pump and perimeter drain tile	Yard/street		No	No	No		No	
337159430			Exterior perimeter drain tile		Not applicable, do not have a sump pump		Yes	No	No			JLJ - Floods at 61th St./50th Ave. approximately 1' on heavy downpour
337159704			Exterior perimeter drain tile		Not applicable, do not have a sump pump		Yes	No	No			JLJ - Neighbors have seepage in basement. Brother lives on 48th Ave. before you get to 60th and floods at 48th Ave./66th St. Has seen water upt o 1/2 way up the side of a car.
337160071			Exterior perimeter drain tile		Not applicable, do not have a sump pump		No	No	No			JLJ - Flooding at 59th Ave./67th St.
337160291		JLJ - Flooded just to south and in yards on both sides of the street, almost waist deep in road. Neighbors get flooded.	Exterior perimeter drain tile		Yard/street		No	No	No			JLJ - Forest Park is an old creek.
337160684		JLJ - Corners of 54th Ave./63rd St. and 54th Ave./62nd St. flood approximately a few to 5" (not over curb).	Do not know		Yard/street			No				JLJ - Not aware of any neighbors having flooding problems.
337161083		JLJ - Corner of 54th Ave./62nd St. has flooding.	Other, please specify	Sump pump and perimeter drain tile	Yard/street		No	No	No			JLJ - No neighbors have flooding that she is aware of.
337161360			Do not know		Yard/street		No	No	No			JLJ - Aware of 2-3 homes on block that have flooding.
337161546			Do not know		Not applicable, do not have a sump pump		No	No	No			JLJ - Not aware of any locations were there is standing water, not aware of any neighbors who experience flooding.
337162275			Do not know		Yard/street		No	No	No			JLJ - Not aware of any neighbors flooding.
337162489			Exterior perimeter drain tile		Not applicable, do not have a sump pump		Yes	No	No			JLJ - Backyard has become a pond.
337162760	Only on her side of the street.	JLJ - Always floods on street and into yard a couple of feet from wall. Lady across the street would know how high the water got.	Do not know		Not applicable, do not have a sump pump		No	Yes	No			
337163138			Do not know		Not applicable, do not have a sump pump		No	Yes	No			JLJ - He was difficult to understand.
337163502		JLJ - Backup at inlet (not up to sidewalk though), plugged or can't handle volume on NE corner of 61st St./50th Ave. Water runs by his house.	Do not know		Yard/street		No	Yes	No			JLJ - Says home across street flooded in June 2009.
337212153			Exterior perimeter drain tile		Not applicable, do not have a sump pump		No	No	No			JLJ - Had some flooding years ago one time but then sealed the inside and outside and hasn't had a problem. Not aware of any neighbors that have flooding.
337212502		JLJ - Flooding at corner of 47th Ave./63rd St., especially the 2 corner houses. Floods on the grass between the sidewalk and street.	Exterior perimeter drain tile		Not applicable, do not have a sump pump		No	No	No			
337212838			Do not know		Yard/street		No	No	No			JLJ - Says neighbor across the street floods.
337213217			Connected to sump pump		Yard/street		No	No	No			JLJ - Storm in June they were almost keeping up with sump pump and wet-vac (no sewer backup). Installed an underground drain from backyard to front yard, discharge to front yard surface.
337213642		JLJ - Flooding stopped of her home, terrible flooding. Neighbor 2 houses down (6521 51st Ave.) had lots of flooding. House next door (6519 51st Ave.) doesn't have basement. June storm in yard, sent photos to jen.jefferson@strand.com.	Connected to sump pump		Yard/street		No	No	No			JLJ - Michelle sent photos to me at jen.jefferson@strand.com.
337214206		JLJ - Flooding at T intersection (63rd St./47th Ave.) corner. 2 homes down also flood.	Do not know		Not applicable, do not have a sump pump		No	No	No			
337214461		JLJ - Flooding at Harding Rd./67th St./49th Ave. (could not get through) and also at 65th St./48th Ave. (have bigger sewers so not as bad of flooding).	Exterior perimeter drain tile		Yard/street		No	No	No			
337214920		JLJ - Always flooding on Pershing Blvd./60th St. and 61st St./46th Ave.	Do not know		Yard/street		No	Yes	No		No	JLJ - Sump pump does not run very much, only in spring when ground is frozen.

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337215583		JLJ - Flooding at 3-way intersection (Harding Rd./67th St./49th Ave.). Water was in people's yards during June 2009 storm (at this intersection).	Not applicable, do not have basement		Not applicable, do not have a sump pump		No	No	Yes	JLJ - Sewer backed up in crawl space one time 5-6 years ago. It was hot and dry outside - tree roots clogged.	No	JLJ - No neighbors flood that she knows of.
337216075			Do not know		Not applicable, do not have a sump pump		No	Yes	No		Yes	JLJ - Houses next to Maribel's do not flood. House across the street (6512 48th Ave.) gets a lot of flooding. Floods in Maribel's yard/grass and she could tell us how high the water gets.
337216628		JLJ - In winter ice plugs drains, but she doesn't know which corner.	Do not know		Not applicable, do not have a sump pump		Yes	Yes	No			
337216985			Do not know		Not applicable, do not have a sump pump		No	No	No			JLJ - Next door neighbor floods to the south.
337217273			Not applicable, do not have basement		Not applicable, do not have a sump pump		No	No	No			JLJ - Flooding on corner of 65th St./48th Ave. Have had an issue with concrete driveway drainage, looking to get it fixed.
337217729			Not applicable, do not have basement		Not applicable, do not have a sump pump		No	No	No			JLJ - On her side of the street houses do not have basements and built up higher. Houses across the street flood though, as they have basements.
337217988			Do not know		Not applicable, do not have a sump pump		No	No	No			
337218171			Not applicable, do not have basement		Not applicable, do not have a sump pump		No	No	No			JLJ - They do not have basement and don't talk to many of their neighbors so she doesn't know if they have flooding issues.
337218431			Do not know		Yard/street		No	Yes	No			JLJ - Had cracks fixed in basement floor this summer (2009).
337218856		JLJ - Standing water in his backyard when it rains really hard.	Other, please specify	Sump pump and perimeter drain tile	Yard/street		No	Yes	No			JLJ - Does not know of any neighbors that flood, they all have sump pumps though.
337219566	During large rains.		Sanitary sewer		Not applicable, do not have a sump pump		No	No	Yes	Roots in sewer.		PAB - Backyard floods during large rains.
337219844			Connected to sump pump		Yard/street		No	No	No			
337219995		PAB - 62nd St./46th Ave.	Exterior perimeter drain tile		Not applicable, do not have a sump pump		Yes	No	No			
337220309			Not applicable, do not have basement		Not applicable, do not have a sump pump		No	No	No			
337220591			Do not know				No	No	Yes	PAB - Backup from sewer plugged up in street in past 10 years.	No	
337221203			Exterior perimeter drain tile				No	Yes	Yes	PAB - 35 years ago sewer broke.		
337221479			Exterior perimeter drain tile		Not applicable, do not have a sump pump		Yes	No	No			
337221677	PAB - Only in backyard, nothing around house.		Exterior perimeter drain tile		Not applicable, do not have a sump pump		Yes	No	No		No	JLJ - Duplicate address (Ida Gilbert and Pamela Flannery)
337223397			Not applicable, do not have basement		Yard/street		No	No	No		No	PAB - Sump pump in garage that discharges to yard.
337223653		PAB - Contained to backyard. Garage got a little water, but does not get into home. 6320 53rd Ave. built berms around their home.	Not applicable, do not have basement		Not applicable, do not have a sump pump		No	No	No			PAB - Added berms around home, garage floods. Add cisterns to contain water.
337224135		PAB - Backyard drains from home to garden, slopes to east, homes behind slope to west. Puts sump pump in garden to street.	Exterior perimeter drain tile		Not applicable, do not have a sump pump		No	No	No		No	
337224486			Connected to sump pump		Yard/street		Yes	No	No		No	
337269481	Summer, yes a little in street, went down quickly.		Exterior perimeter drain tile		Not applicable, do not have a sump pump		Yes	No	No		No	
337269706	Neighbors yard and basement floods.		Do not know		Not applicable, do not have a sump pump		No	No	No		No	
337269877	Neighbor's yard.		Connected to sump pump		Yard/street		No	Yes	No		No	
337270122			Connected to sump pump		Yard/street		No	No	No		No	PAB - Susan Legler (5221 61st St.) said problems began when Southport Mall was built (JLJ - forgot to to enter with Susan's survey, put on this one).
337270414	Neighbor's through window.		Do not know		Basement floor drain		No	No	No		No	
337270553		PAB - Neighbor's basement floods once in awhile.	Exterior perimeter drain tile		Not applicable, do not have a sump pump		Yes	No	Yes	PAB - Has had some root problems.	No	PAB - Sanitary sewer backwater valve was prevented from closing during large event due to leaves.
337270854			Connected to sump pump		Direct connection to storm sewer		Yes	No	No		No	PAB - 62nd St. floods 8" on north and south side from 53rd Ave. to 51st Ave. Drain 3'-4' below sump pump to sewer.
337271431	PAB - At low spots in their yard, in neighbor's yard on northside and neighbors do have flooding in basement during rain.		Do not know		Not applicable, do not have a sump pump		No	No	No		No	PAB - During smoke testing, smoke came up through drain, called city and they recommended pouring water down the drain.
337271746			Do not know		Not applicable, do not have a sump pump		No	No	No		No	PAB - Have flooding in their backyard.
337271946			Do not know		Not applicable, do not have a sump pump		No	No	Yes	PAB - Tree roots 11 years ago.	No	
337272096			Do not know						No		No	
337272206			Exterior perimeter drain tile		Not applicable, do not have a sump pump		Yes	No	No		No	
337272311	During heavy rains.		Connected to sump pump		Yard/street		No	No	No		No	
337272464			Do not know		Not applicable, do not have a sump pump		No	No	No		No	
337272648												PAB - Does not speak English.
337272778	PAB - Street is settled in front of house.		Other, please specify	Sump pump and perimeter drain tile	Yard/street		No	No	No		No	
337272924		PAB - Neighbor to right got flooding in backyard.	Connected to sump pump		Yard/street		No	No	No		No	
337273027			Connected to sump pump		Yard/street				No		No	
337273108			Do not know				No	No	Yes	PAB - Once because of roots.	No	
337273227			Exterior perimeter drain tile		Not applicable, do not have a sump pump		Yes	No	Yes	PAB - Roots in pipe.	No	
337273356			Do not know		Not applicable, do not have a sump pump			No	No		No	
337273528			Exterior perimeter drain tile		Not applicable, do not have a sump pump		No	No	No		No	
337273614	During heavy rains.		Do not know		Not applicable, do not have a sump pump			No	No		No	
337273715	PAB - South corner of intersection (48th Ave./Harrison Rd.??)		Do not know		Not applicable, do not have a sump pump		No	Yes	No		No	
337273962			Connected to sump pump		Yard/street			No	No		No	

Session ID	Question 8: If yes, how often and in what year(s) did this occur?	Question 9: If you have noticed storm-related flooding in your yard, a neighbor's yard, or in the street in front of your house, describe location, limits, and depth of flooding with reference to landmarks (home, steps, curb, fire hydrant, tree, etc.).	Question 10: How is the foundation of your home drained?	Question 10: Other, please specify	Question 11: Where does your sump pump discharge to?	Question 11: Other, please specify	Question 12: Do you have a sanitary sewer backwater valve?	Question 13: Do you have standpipes or plugs in your basement floor drains?	Question 14: Have you experienced nonstorm-related flooding?	Question 14: If yes, describe reason why	Question 15: Representatives of the City will be canvassing the neighborhood on Saturdays in October to obtain feedback from residents that do not respond to this survey. We ask that you encourage your neighbors and friends in the neighborhood to respond to the survey. If you would like a representative to stop by your home during the canvassing, please check yes in	Question 16: Please provide any additional comments/information you have in the space below.
337274527		Sketch attached. JLJ - Shows flooding at intersection of 61st St./46th Ave. Flooded over curb at intersection. Water is flowing behind house (North side) through parking lot toward Pershing Blvd. Flooding in yards almost to porch on NE corner of 61st St./46th Ave. intersection.	Connected to sump pump		Yard/street		No	No			Yes	
337278678			Connected to sump pump		Yard/street		Yes	No	No		No	
337975772	2008 and prior	The home at the bottom of my hill was saturated and then ice formed. Huge flood at the bottom of driveway and sidewalk (3 doors west)	Other, please specify	Sump pump, exterior drain tile	Yard/street		No	No			Yes	
337977117			Other, please specify	Sump pump, exterior drain tile	Yard/street			No	No			
337978184			Do not know		Basement floor drain		Yes	Yes	No			
338336445			Do not know		Not applicable, do not have a sump pump			No	No			
339311465												
339936532			Connected to sump pump		Other, please specify	Do not know			No		Yes	
339937392			Other, please specify	Guess: Drain tile connects to floor drain	Not applicable, do not have a sump pump		No	No	No		No	
339938100	Occurs infrequently, happened this year, don't remember other exact years	Water was over curb in cul-de-sac this year.	Other, please specify	Connnected to perimeter drain tile then sump pump	Yard/street			No	Yes	Washing machine overflowed.	No	JLJ - Sketch attached. Shows that water completely covered the circular portion of the cul-de-sac.
340542712		Curbs										
340680365	Last 5 years more so since neighbor cemented yard about 3 years ago. Get water from apartment parking lot into backyard so no where for water to go. Made trench so water could go out gate and redirected the sump to front under shrubs. Gate is open so we can look into backyard.	Just window wells when look at front of house on left side. Believes she is lower than rest of neighbors.	Connected to sump pump		Yard/street		No	No	No		Yes	Representative can call her at an time, does have conflicts with dates listed in our letter. JLJ - Ms. Matrise called Shelly on 10.22.09 and had trouble filling out the survey, so Shelly when through it with her and completed over the phone.
340682569			Connected to sump pump		Yard/street			Yes	No			Current Address: 1080 Shagbark Lane, Union Grove 53182. Home is currently for sale. Homeowner communicates by sign language, does have interpreter if call - survey filled out by Shelly via phone call on 10.22.
340757867			Exterior perimeter drain tile		Other, please specify	no sump pump	No	No	No		No	
340854181			Connected to sump pump		Other, please specify	Not sure	No	No	Yes	6-7 years ago in May had water in basement from pipe in street, was clearer water. Clog in lateral.	No	JLJ - Shelly Billingsley filled this survey out. Elderly does not want someone to stop by. Called 10.23.09 at 3:45 pm. Shelly filled out survey during the telephone call.
340854718							No	Yes			No	JLJ - Shelly Billingsley filled out survey over the phone. Does not want someone stopping by. Called 10.23.09 at 4pm.
340964480			Exterior perimeter drain tile				No	No	Yes	roots in sewer	No	
341197245	2009 spring storm sewer plugged up and flooded over parkway at end of street 53 av and 63 ST	STORM SEWER 53 AV AND 63 ST OVER CURB HALFWAY ON TO SIDEWALK INTO MIDDLE OF INTERSECTION HALF WAY UP FIRE HYDRANT	Connected to sump pump		Yard/street				No		Yes	
341225267			Exterior perimeter drain tile		Not applicable, do not have a sump pump		No	No	No		Yes	
341270250	Whenever we have a lot of rain, in a little time; the street can get flooded and prevent the pump from working	Almost all the way to the top of the curb, out into the middle of the street,and up the hill, all the way to the corner, away from the street drain	Connected to sump pump		Yard/street		No	No	No		No	
341550893	Neighbor's yard, every large rainfall. Not in our yard.	House to the west of me - basement is flooded with large rainfall. House to the east of me - backyard is flooded to the point of making a pond during heavy rainfall.	Connected to sump pump		Other, please specify	Unknown, do not know when it runs	No	No	No		No	
341726522			Do not know					Yes	No		No	
341858362			Do not know		Not applicable, do not have a sump pump		No	No	No			
341861936					Yard/street							Professor in Illinois; talked to neighbor to the north. Water ponding in whole intersection up to 6027 4th ave yard.
341869419	1986 and about 5 times in the next 23 years and on June 19 2009.	streets flood about 2' deep, yard floods about 4" deep between the houses and 4" deep in the garage.	Other, please specify	sump pump and exterior perimeter drain tile	Yard/street		No	Yes	No		Yes	water comes out of storm drains and floods the streets, yards, and garages.Runs out between garages to the parking lot and Perishing Blvd.
341935404			Do not know				No	No	No			
341935525			Connected to sump pump		Direct connection to sanitary sewer lateral		No	No				I am under the impression there was a creek/drainage ditch that was back filled.It ran behind my home.
341946539			Do not know		Not applicable, do not have a sump pump		No	No	No			
341947168			Interior perimeter drain tile		Not applicable, do not have a sump pump		No	No	No		No	Rental and Owner. She was raking leaves outside . also talked to canvassing on 10/24/2009.
341949822			Connected to sump pump		Yard/street			No	No			
341951281			Do not know		Not applicable, do not have a sump pump		No	No	No			NE corner of 61st and 47th Ave. Sewer drains not cleaned often.
341954188												Garage had some water.
341956441			Exterior perimeter drain tile		Not applicable, do not have a sump pump		No	No	No			
341957101			Exterior perimeter drain tile		Yard/street		No	Yes	No			47th and 63rd by five hydrants. gutters and driveways fixed- used to come into windows.
341959354			Sanitary sewer		Not applicable, do not have a sump pump		No	No	No			
341962231			Interior perimeter drain tile		Not applicable, do not have a sump pump		No	Yes	No			
341962978			Do not know		Yard/street		No	No				
341964060			Do not know		Not applicable, do not have a sump pump							plumber fixed rusted bay. Do not know what the woman was saying.
341965260												
341965755	49th and 61st every time there is heavy rain up to 6043 49th N. edge of pavement up to 6044 49th corner of yard		Do not know		Not applicable, do not have a sump pump		No	No				6038- just moved in one week ago.

Session ID	Question 8: If yes, how often and in what year(s) did this occur?	Question 9: If you have noticed storm-related flooding in your yard, a neighbor's yard, or in the street in front of your house, describe location, limits, and depth of flooding with reference to landmarks (home, steps, curb, fire hydrant, tree, etc.).	Question 10: How is the foundation of your home drained?	Question 10: Other, please specify	Question 11: Where does your sump pump discharge to?	Question 11: Other, please specify	Question 12: Do you have a sanitary sewer backwater valve?	Question 13: Do you have standpipes or plugs in your basement floor drains?	Question 14: Have you experienced nonstorm-related flooding?	Question 14: If yes, describe reason why	Question 15: Representatives of the City will be canvassing the neighborhood on Saturdays in October to obtain feedback from residents that do not respond to this survey. We ask that you encourage your neighbors and friends in the neighborhood to respond to the survey. If you would like a representative to stop by your home during the canvassing, please check yes in	Question 16: Please provide any additional comments/information you have in the space below.
341968257		water comes over sidewalk.	Exterior perimeter drain tile		Not applicable, do not have a sump pump		No	No	No			
341969244			Do not know		Yard/street		No	No				corner of 49th and 61st - up to 4816 and 61st driveway.
341971370			Connected to sump pump				No	Yes	No			
341971870					Other, please specify	dot know have sump pump		No	No			
341973021			Connected to sump pump		Yard/street		No	No	No			
341973553			Other, please specify	perimeter drain tile.	Yard/street		No	No				
341974457			Connected to sump pump		Yard/street			No		roots-cleared roots		
341976586		backyard floods- neighbors drain to yard.	Exterior perimeter drain tile		Not applicable, do not have a sump pump		No	No	No			6' in circumfrence (Floor Drain)
341978357			Do not know		Not applicable, do not have a sump pump		No	No				
341979159	very minor in yard.		Exterior perimeter drain tile		Not applicable, do not have a sump pump		No	No	No			
341980080			Connected to sump pump		Yard/street		No	No	No			
341980763			Do not know		Yard/street			No	No			
341981705			Sanitary sewer					No		when it rains alot and often, at times I have tiny amount seeping in a few cracks in the floor.	No	I am hearing impared and it is difficult for me to hear and understand some people voices. I dont sign or read lips so it is difficult for me. I live alone and have no family that will or would help me to answer questions. also have a problem on the phone no TTD or TTY, just a regular
341984669			Connected to sump pump		Yard/street		No	No	No		No	We just purchased this home in June 2009, and haven't had any issues. Hopefully, that continues!
341985037			Connected to sump pump		Yard/street		No	No	No			Sump pump failure one time. minor backup at floor 2".
341986825			Connected to sump pump		Yard/street			No	No			
341987978	yard flooded		Do not know		Not applicable, do not have a sump pump		No	No	No			
341988724			Do not know		Yard/street		No	Yes				2 sump pumps. up to first slab. would tell survey where water goes up to.
341993675	over sidewalk		Other, please specify	perimeter drain tile	Yard/street		Yes	No				driveway next to green house to north driveway next to neighbors home.
341995496		flood all the to front steps	Connected to sump pump		Yard/street		No	Yes	No			
341996161			Do not know		Yard/street		No	Yes	No			up to step off sidewalk intersection. up to 6116 50th driveway.
342125133			Sanitary sewer		Not applicable, do not have a sump pump		No	No	No		No	
342129694			Connected to sump pump		Yard/street		No	Yes	No			discharge to yard/street in summer and sanitary sewer in winter.
342131150			Exterior perimeter drain tile		Not applicable, do not have a sump pump		No	No	No			
342132217			Exterior perimeter drain tile		Not applicable, do not have a sump pump		No	No	No			corner of 51st and 61st
342135387			Other, please specify	Perimeter drain tile to sump pump	Yard/street		No	Yes	No			Intersection of 51st Ave. and 61st St. only floods if leaves are clogging inlets. Resident has low spot in the backyard. Second brick home from corner of 54th Ave. and 61st St. has flooding in basement.
342137285			Connected to sump pump		Yard/street		No	No				
342138287		intersection 52nd and 60th some flooding.	Not applicable, do not have basement		Not applicable, do not have a sump pump		No	No	No			
342139058		between neighbor to north and his home	Connected to sump pump		Yard/street			No	No			
342140028			Other, please specify	perimeter drain tile	Yard/street		Yes	Yes	No			ice build-up against curb at intersection 54th and 63rd. ice caused flooding not water.
342144658		intersection at 54th.	Connected to sump pump		Yard/street		No	No	No			
342145582												doesn't speak english.
342147109			Connected to sump pump		Yard/street		No	No	No			
342148058	intersection past sidewalk		Connected to sump pump		Yard/street		No	No	No			
342148691			Other, please specify	sump pump and perimeter drain tile	Yard/street		No	Yes	No			over sidewalk in front of home.
342149846	haves regularly.		Connected to sump pump		Direct connection to storm sewer		No	No	No			
342150496			Other, please specify	perimeter drain tile	Yard/street		No	No				
342151866	at corner		Connected to sump pump		Yard/street		No	No	No			
342153003			Other, please specify	sump pump and perimeter drain tile	Yard/street		No	Yes	No			up to curb doesn't run.
342153855		6" in intersection 62nd and 54th	Connected to sump pump		Yard/street		Yes	No	Yes	cleaning sewer		question 2 should be once during cleaning the sewer.
342156118			Other, please specify	perimeter drain tile	Yard/street		No	No	No			foundation cracks and leaks in floor. 54th St. on eastside. discharge from drain tile buried in yard on westside toward 54th St.
342158369	river through yard		Connected to sump pump		Direct connection to storm sewer		No	No	No			
342159823			Do not know		Yard/street		No	No				51st and 61st corner up to 6113 51st.
342161356			Connected to sump pump		Direct connection to storm sewer		Yes		Yes	had a fireplace installed and when it rained it flooded our pavement.	No	
342163037			Do not know		Direct connection to storm sewer							
342163851			Connected to sump pump		Direct connection to storm sewer		No	No	No			
342164830			Connected to sump pump		Yard/street		No	No	No			
342165312			Do not know		Yard/street			No				no sewer problems
342165855	more fequently than with basement. do not recall specific years	backyard behide our house. not deep but noticable standing water.	Connected to sump pump		Yard/street		No	No	No		No	
342167893			Not applicable, do not have basement		Not applicable, do not have a sump pump		No	No	No		No	based on neighbors comments

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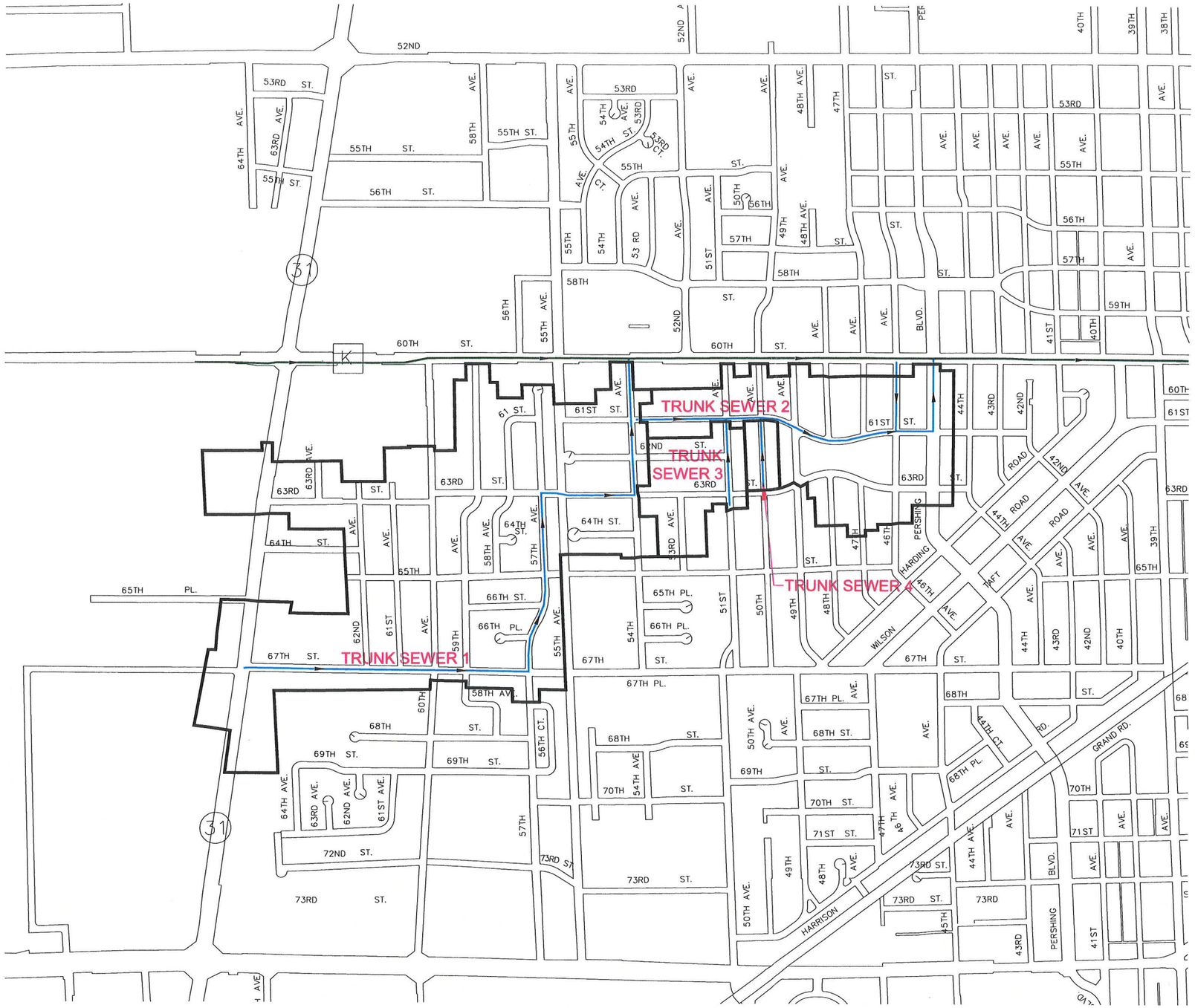
342168917												neighbor doesn't know if there is a sump pump as he doesn't see where sump pump discharges to
342170517			Other, please specify	Perimeter drain tile and sump pump	Yard/street		No	No				home drains around perimeter of intersection
342172321			Exterior perimeter drain tile		Yard/street		No	No	No			yellow house corner gray no basement. 5305 63rd no flooring in basement. not very many inlets only at intersection of 53rd/63rd St. 5" - 6" deep on side of garage. floods 53rd and 63rd knee deep. 4" drain tile at curb.
342174558		driveway and yard floods when it rains	Not applicable, do not have basement		Not applicable, do not have a sump pump							
342175240			Do not know		Yard/street			No	No			
342178165			Do not know		Yard/street			No				63rd and 54th Ave. ice. found in front of driveway (ice)
342179437			Do not know		Yard/street		No	No	Yes	planting and watering too close to home.		
342180697			Connected to sump pump		Yard/street		No	No	No			
342181257			Do not know		Yard/street		No	Yes				
342182202		across the street flooding	Connected to sump pump		Yard/street		No	No	No			
342183978			Connected to sump pump		Yard/street		No	No	No			
342185510			Connected to sump pump		Yard/street							not home observaters
342186249			Connected to sump pump		Yard/street		No	No	No			
342187620					Yard/street		No	Yes				
342188307										tree root causes sewer to back up every year		
342189040			Connected to sump pump		Yard/street		No	No	No			
342190093			Do not know						No			
342191369					Not applicable, do not have a sump pump							no sump pump in basement drains from backyard. foundation cracks and leaks from backyard
342193726	every big storm.	up to tree in front yard on corner. maybe a couple of inches deep.	Other, please specify	sump pump and sanitay sewer	Yard/street		No	No	No			
342195605			Connected to sump pump		Yard/street		No	No	No		No	
342197296	sometimes in street but moved leaves from C.B. so solves problem.		Do not know				No	No		only when lateral was clogged.		Shelly Billingsley fillout form from telephone call on Oct. 28 11:50am
342199506			Sanitary sewer				No	No	No		No	
342200555	2009	neighbors(across the street and one house to south) had water in window well	Connected to sump pump		Yard/street				No		No	
342570699	seams that the houses in front of my house do not have basements/lowerlevels so they are not affected	I have provided pictures to city officials please ask them to forward information and please make copies as I am requesting originals returned	Other, please specify	Both connected to a sump pump and exterior drain	Yard/street		No	Yes	No		Yes	We have had city engineers come into our residence and tell us that it was sewer and it occurs most often when the pump is not put in the location of 46th ave. I have had to continue to monitor the weather and continue to call city officials to feel safe in my home.
342610366												
342753611												
342822159	Heavy rain, every year.		Connected to sump pump		Yard/street			Yes	No			JLJ - provided sketch of where water accumulates in backyard and how it flows around the house and out into the street
342835559	Same years as listed in question 5, 2007 and 2009	Water rose above the street curb and covering the sidewalk, covering half of our trucks wheels (F150)	Do not know		Not applicable, do not have a sump pump			Yes	Yes	Water heater burst while not at home.	No	I have never had flooding problems in the 24 years of living here until recently (within the past 4-5 years). I have noted greater street flooding that has lead to indoor sewer drain backup. Due to these flooding problems our insurance has not only raised our premiums but it is my understanding that if it occurs again they will probably cancel our insurance.
342956845	Any extended heavy rainfall. Every year.	Large puddles in my backyard within 10 feet of the house. Puddling along back foundation due to poor grading.	Other, please specify	Natural draining. (Basement has 1 floor drain)	Not applicable, do not have a sump pump		No	No	No		No	
343055586	2004-2009	At the corner of 51st St. and 61st St.	Sanitary sewer		Not applicable, do not have a sump pump		No	No	No		No	
344397472	2004-2009	At the corner of 51st Ave and 61st Street	Sanitary sewer		Not applicable, do not have a sump pump		No	No	No		No	
344397474	2008		Connected to sump pump		Direct connection to storm sewer				No		Yes	
344400464			Connected to sump pump		Other, please specify	Don't know	No	No	Yes	Clogged lateral	No	
344401755			Do not know		Not applicable, do not have a sump pump				No		No	
344402688	June storm had water in the wash area of property but no backup at all						No	No	Yes	Just a little on floor from last large rain.	No	
344970638			Do not know		Not applicable, do not have a sump pump		Yes	Yes				46th and 61st 47th and 63rd
344980854			Do not know		Not applicable, do not have a sump pump		No	No	No			
344987055					Not applicable, do not have a sump pump							
344987844												
344988772			Other, please specify	perimeter tile drain	Yard/street		No	No				49th to river
344990871			Exterior perimeter drain tile				No	No	No		No	
344994149	minor flooding	sump pump runs continuously all year round.	Connected to sump pump		Yard/street		No	No	No		No	
344999201			Do not know		Yard/street		No	No				51st, 65th, 67th Streets.
345000806			Connected to sump pump		Yard/street		No	No	No		No	
345001594			Connected to sump pump		Yard/street		No	No	No		No	
345002309			Do not know		Yard/street		No	No	No			
345003070												did not have time to fill out.
345003800			Connected to sump pump		Yard/street		No	No				corner of 67th

Session ID	Question 8: If yes, how often and in what year(s) did this occur?	Question 9: If you have noticed storm-related flooding in your yard, a neighbor's yard, or in the street in front of your house, describe location, limits, and depth of flooding with reference to landmarks (home, steps, curb, fire hydrant, tree, etc.).	Question 10: How is the foundation of your home drained?	Question 10: Other, please specify	Question 11: Where does your sump pump discharge to?	Question 11: Other, please specify	Question 12: Do you have a sanitary sewer backwater valve?	Question 13: Do you have standpipes or plugs in your basement floor drains?	Question 14: Have you experienced nonstorm-related flooding?	Question 14: If yes, describe reason why	Question 15: Representatives of the City will be canvassing the neighborhood on Saturdays in October to obtain feedback from residents that do not respond to this survey. We ask that you encourage your neighbors and friends in the neighborhood to respond to the survey. If you would like a representative to stop by your home during the canvassing, please check yes in	Question 16: Please provide any additional comments/information you have in the space below.
345004587			Connected to sump pump		Yard/street		No	No	Yes	tree roots		flooding due to sump pump failure not frequent.
345009172			Other, please specify	perimeter drain tile	Yard/street		No	No				
345017103			Other, please specify	perimeter drain tile	Yard/street							
345017746	1990's to 2009	1990's half way up our front yard. 2009 from the street to the sidewalk.	Other, please specify	connected to sump pump and perimeter drain tile	Yard/street		No	No	No		No	sump pump runs continuosly year round. old creek bed from sheep farm.
345020943			Connected to sump pump		Yard/street			No	No		No	
345022435	heavy rain		Connected to sump pump		Yard/street		No	No	No		No	
345025900	street - during heavey rains.		Connected to sump pump		Yard/street		No	Yes	No		No	
345030978			Do not know		Yard/street		No	No				floods 48th to 65th
345054983	The June 19 storm caused water to come over the curb into yards	Front yard	Do not know		Not applicable, do not have a sump pump		Yes	Yes	No		No	
345190110			Exterior perimeter drain tile				No	No	No		No	
345198369											No	
345200069			Do not know		Not applicable, do not have a sump pump		No	No	No		No	
345207118												
345208101			Connected to sump pump		Other, please specify	don't know	No	No	No		No	
345209076					Not applicable, do not have a sump pump							
345211497			Connected to sump pump		Other, please specify	don't know						
345213762			Exterior perimeter drain tile		Not applicable, do not have a sump pump		No	No	Yes	tree roots	No	
345216478			Do not know		Not applicable, do not have a sump pump		No	Yes				50th, 61st, 62nd - putting in new storm sewer.
345218168			Do not know		Yard/street		No	No				
345220112			Do not know		Yard/street		No	No				around park
345221728	during heavy rains at inlet 50th/65th curb high.		Other, please specify	sump pump and interior perimeter drain tile	Yard/street		No	No	No		No	
345224922		floods from southwest properties towards 50th Ave.	Exterior perimeter drain tile				No	No	No		No	
345226704			Exterior perimeter drain tile				No	No	No		No	
345228295			Other, please specify	perimeter drain tile	Not applicable, do not have a sump pump		No	No				home built in 1957
345229836					Not applicable, do not have a sump pump							
345230862			Exterior perimeter drain tile		Not applicable, do not have a sump pump		No	No	No			
345231692												floods on 48th up to car. kids throw junk in storm sewer inlets.
345233594												floods bit on coner of 65th and 49th Ave.
345235712					Not applicable, do not have a sump pump			No				
345237371			Do not know		Not applicable, do not have a sump pump							
345238317	neighbors to the south basement flooded in june.						No	Yes	No		No	
345240223			Other, please specify	sump pump and perimeter drain tile.	Yard/street		No					triangle intersection inlets mainly just plugged. city has done some work on sewers in past. Doesn't know if was storm or sanitary.
345243331	only during heavy rains	water comes to edge of the yard over sidewalk. 2 1/2 to 3 feet of standing water.	Connected to sump pump		Yard/street		No	No	No		No	
345245632												
345246300			Other, please specify	sump pump and perimeter drain tile.	Yard/street		Yes	No				
345247898												
345248758			Do not know		Yard/street		Yes	Yes				on 49th Ave. drains can't keep up (not above curb).installed bedry system on interior basement walls. before system installed resident would get 1-2 feet of water in basement
345628187	Every time we get significant rain, a lot of neighborhood rain collects in my back yard, anywhere from 6 inches to 2 feet of water, this is spring, summer, and fall, EVERY TIME, all water ends up in my back yard, creating a mess and a clean-up nightmare!	small windbreak(woods) behind my house anywhere from 6 inches to 2 feet, every time we get significant rain	Connected to sump pump		Yard/street		No	Yes	No		No	
345818592	About once a summer: 2007, 2008, 2009	In the entire intersection of Harding, 49th Ave. and 67th Street coming over the sidewalks on all sides.	Connected to sump pump		Yard/street		No	No	No		No	
345819236	2009	2-3 feet in street and extending to neighbor's step and flooding our yard to sidewalk.	Do not know		Not applicable, do not have a sump pump		No	No	No		No	
346167819	April 2004, they came out to clean the sewers in front of my home.		Connected to sump pump		Direct connection to storm sewer			No	No		No	
346168347			Exterior perimeter drain tile				No	No	No		No	
346656143			Other, please specify	sump pump, sanitary sewer, int & ext drain tiles	Yard/street		No	No	No		Yes	
350636262			Do not know		Yard/street		No	Yes	No		Yes	
352505563	2009 and only one time	backyard. at least 3 inches on the foundation wall outside.	Connected to sump pump		Yard/street		No	No	No			

APPENDIX B
PREVIOUS REPORT FIGURES



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SCALE IN FEET

MAP 1

KENOSHA SANITARY SEWER SYSTEM PLANNING AREA

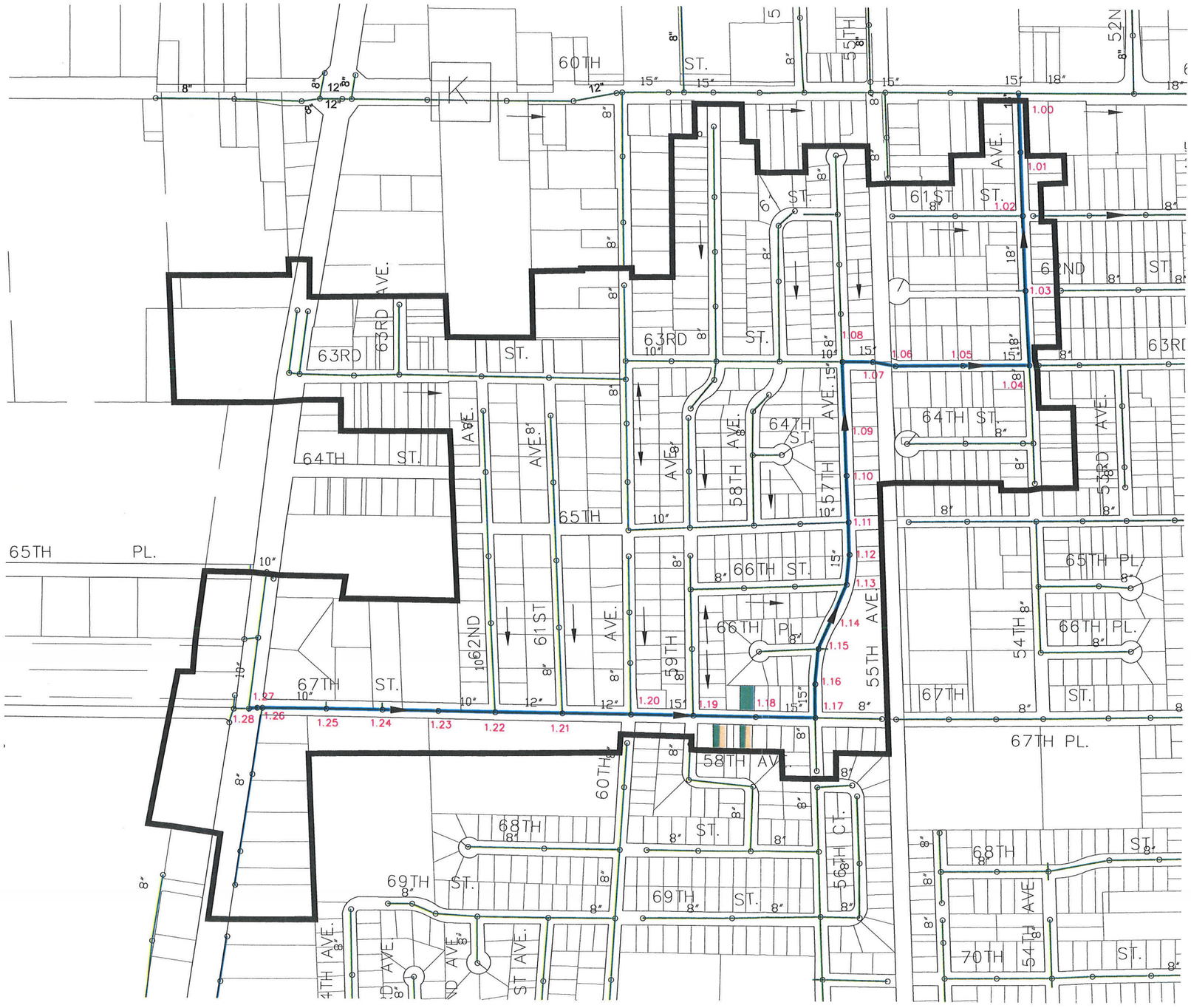
KENOSHA WATER UTILITY, KENOSHA COUNTY, WISCONSIN: 1999

LEGEND

- SANITARY SEWER SERVICE AREA BOUNDARY
- SANITARY STUDY TRUNK SEWERS
- EXISTING INTERCEPTOR SEWER

Mueller Mielke
Professional Engineers & Registered Land Surveyors since 1946

RM1117LB



N
W E
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0 250 500 1000

SCALE IN FEET

MAP 2

TRUNK SEWER 1 SANITARY SEWER SYSTEM

KENOSHA WATER UTILITY, KENOSHA COUNTY, WISCONSIN: 1999

LEGEND

- SANITARY SEWER SERVICE AREA BOUNDARY
- SANITARY STUDY TRUNK SEWER
- SANITARY SEWERS
- BASEMENT BACKUPS REPORTED AFTER APRIL 23, 1999 STORM
- BASEMENT BACKUPS REPORTED AFTER JUNE 15, 1999 STORM
- 1.01 SANITARY SEWER MANHOLES

Ruekert/Mielke
Professional Engineers
& Registered Land Surveyors since 1946

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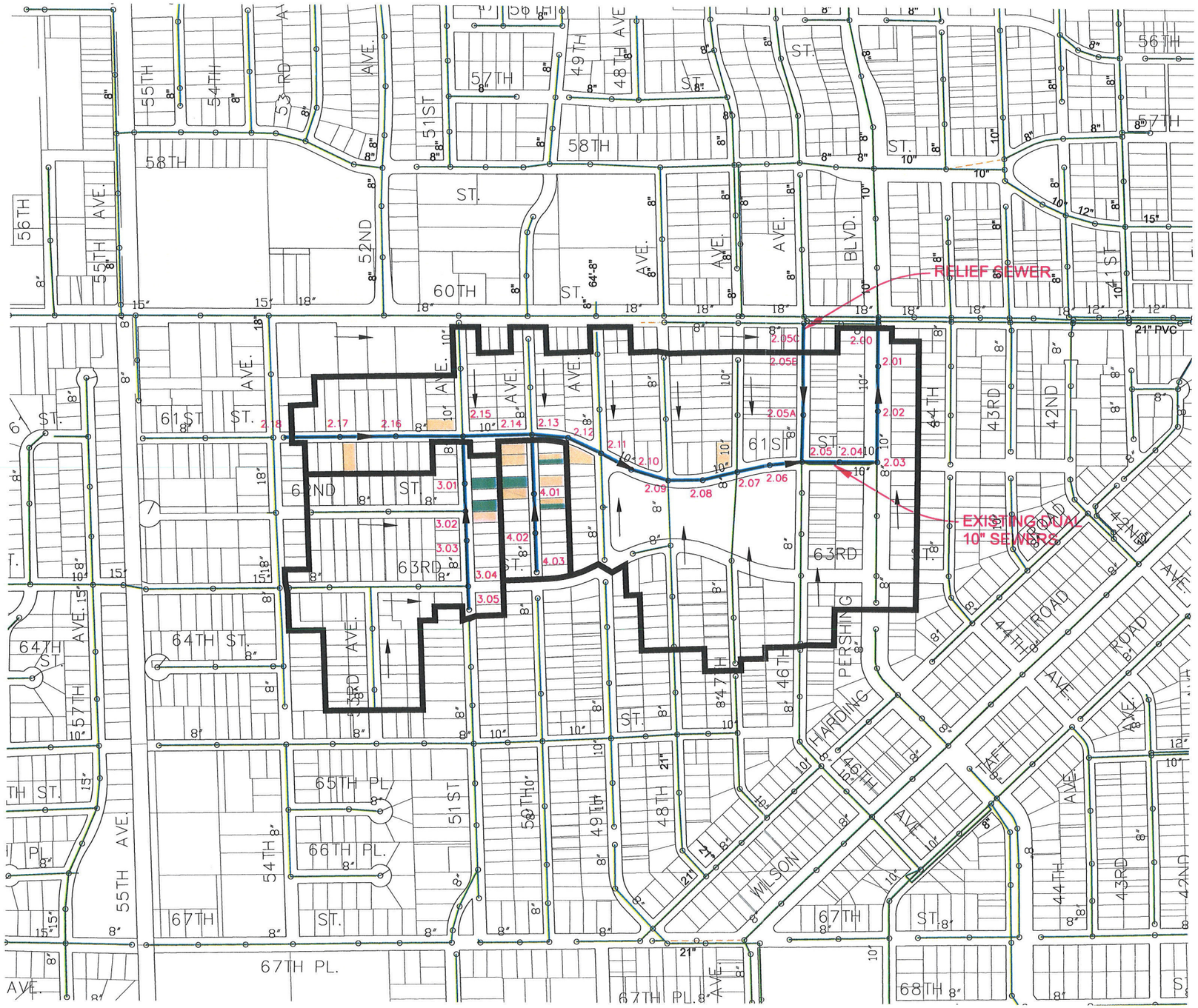

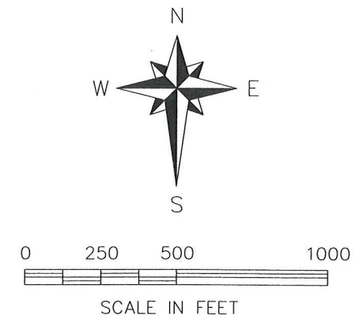

MAP 3

TRUNK SEWERS 2,3, & 4 SANITARY SEWER SYSTEM AREA MAP

KENOSHA WATER UTILITY, KENOSHA COUNTY, WISCONSIN: 1999

LEGEND

- SANITARY SEWER SERVICE AREA BOUNDARY
- SANITARY STUDY TRUNK SEWER
- SANITARY SEWERS
- BASEMENT BACKUPS REPORTED AFTER APRIL 23, 1999 STORM
- BASEMENT BACKUPS REPORTED AFTER JUNE 15, 1999 STORM
- 2.01 SANITARY SEWER MANHOLES

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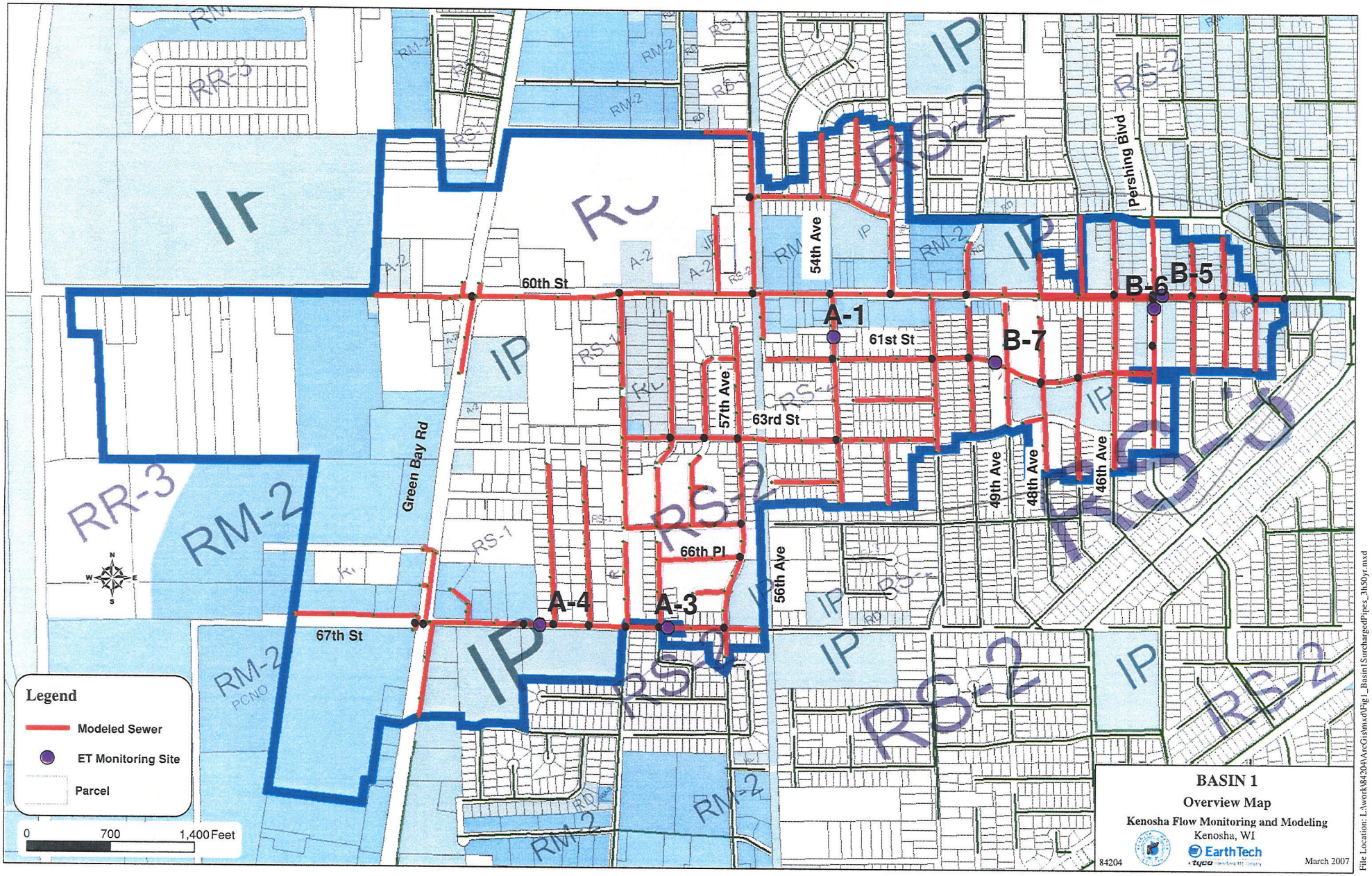
Ruekert Mielke
Professional Engineers & Registered Land Surveyors since 1946


60th St
61st St
63rd St
66th Pl
67th St
Green Bay Rd
54th Ave
57th Ave
56th Ave
49th Ave
48th Ave
46th Ave
Pershing Blvd
A-1
A-3
A-4
B-5
B-6
B-7
RR-3
RM-2
IP
RS-2
RS-1
A-2
Legend
Modeled Sewer
ET Monitoring Site
Parcel
0
700
1,400 Feet
BASIN 1
Overview Map
Kenosha Flow Monitoring and Modeling
Kenosha, WI
EarthTech
84204
March 2007
Data Sources: Kenosha 2005, ET 2006
File Location: L:\work\84204\ArcGis\mxd\Fig1_Basin1SurchargedPipes_3h50yr.mxd

APPENDIX C
TABULAR SEWER SYSTEM DATA

Table 1
Tabular Model Data - North Basin

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Invert Elevation (ft)			
MH-1002	688.01	679.257	678.59			
MH-1003	680.47	670.887	670.22			
MH-1004	686.45	679.867	679.2			
MH-16339	678.6	678.087	670.6			
MH-16365	694.8	686.137	685.47			
MH-16366	692.73	685.257	683.15			
MH-16369	677.35	667.487	660.52			
MH-1822	687.46	675.707	675.04			
MH-1823	692.89	682.807	682.14			
MH-1824	700.02	689.907	688.94			
MH-1885	694.17	687.007	686.34			
MH-1886	697.35	688.597	687.93			
MH-1888	698.76	690.177	689.51			
MH-1891	682.47	674.387	672.488			
MH-1893	690.94	681.187	680.52			
MH-1895	696.5	684.587	683.92			
MH-3088	698.25	689.087	688.42			
MH-3089	700.35	690.187	689.52			
MH-3090	699.25	690.917	690.25			
MH-320	660.66	644.41	642.91			
MH-343	660.87	647.813	644.54			
MH-354	660.62	649.886	649.053			
MH-355	666.12	652.105	651.272			
MH-356	670.73	659.087	653.87			
MH-357	662.42	655.81	651.5			
MH-358	666.59	658.5	657.67			
MH-374	666.5	657.5	655.17			
MH-375	664.75	657.12	656.42			
MH-396	668.15	656.737	656.07			
MH-4199	692.91	676.41	674.91			
MH-466	675.12	663.207	662.54			
MH-467	681.52	672.087	669.02			
MH-468	689.87	679.287	678.62			
MH-470	672.35	661.017	660.35			
MH-471	681.46	670.297	669.63			
MH-472	682.45	673.287	672.62			
MH-5152	670.49	658.649	657.816			
MH-5174	665.92	655.353	654.42			
MH-5568	658.82	646.99	645.49			
MH-5571	661.85	648.81	647.1			
MH-5572	665.87	652.87	651.17			
MH-5574	665.94	653.05	649.86			
MH-5724	677.33	667.333	666.5			
MH-6069	660.42	645.72	644.22			
MH-6075	681.16	666.16	664.66			
MH-6090	662.05	649.4	648.12			
MH-6092	682.68	670.347	669.68			
MH-6168	663.92	650.467	649.8			
MH-669	681.05	670.713	669.72			
MH-670	689.72	671.887	670.64			
MH-671	696.64	672.887	672.22			
MH-672	678.61	668.443	667.61			
MH-673	683.22	674.887	674.22			
MH-674	690.96	681.627	680.96			
MH-871	679.09	670.11	669.42			
MH-877	685.75	674.587	673.92			
MH-879	676.54	666.487	665.37			
MH-884	681.49	672.087	664.16			
MH-886	687.77	677.107	676.44			
MH-887	688.81	682.057	681.39			
MH-937	680.8	672.227	671.56			
MH-938	682.09	674.177	673.51			
MH-940	695.96	688.957	688.29			
MH-943	682.72	674.344	673.677			
MH-944	686.14	678.35	677.683			
MH-946	691.27	682.357	681.69			
MH-961	679.46	668.457	667.79			
MH-962	689.04	680.457	679.79			
MH-968	681.12	668.299	667.62			
MH-969	680.17	669.087	668.42			
MH-976	678.37	669.087	663.37			
MH-983	680.15	663.183	662.32			
MH-986	678.74	665.633	664.8			
MH-991	681.04	671.747	670.54			
MH-993	688.87	681.957	681.29			

Table 1
Tabular Model Data - North Basin

Conduit Name	Length	Conduit Class	Area	Manning Coef.	Max Width	Depth
	(ft)		(ft^2)		(ft)	(ft)
P-485	251.2	Circular	0.3494	0.011	0.667	0.667
P-486	249.4	Circular	0.3494	0.011	0.667	0.667
P-487	299.9	Circular	0.3494	0.011	0.667	0.667
P-671	305	Circular	0.545	0.011	0.833	0.833
P-2983	161.2	Circular	0.545	0.011	0.833	0.833
P-2985	163.5	Circular	0.545	0.011	0.833	0.833
P-2981	153.2	Circular	0.545	0.011	0.833	0.833
P-2979	172.2	Circular	0.545	0.011	0.833	0.833
P-521	155.7	Circular	0.545	0.011	0.833	0.833
P-522	157.4	Circular	0.545	0.011	0.833	0.833
P-2909	149.4	Circular	0.545	0.011	0.833	0.833
P-2910	146.2	Circular	0.545	0.011	0.833	0.833
P-2915	166.5	Circular	0.545	0.011	0.833	0.833
P-2916	166.4	Circular	0.545	0.011	0.833	0.833
P-195	236	Circular	0.545	0.011	0.833	0.833
P-196	201.5	Circular	0.545	0.011	0.833	0.833
P-506	340	Circular	0.3494	0.011	0.667	0.667
P-507	339.4	Circular	0.3494	0.011	0.667	0.667
P-501	181	Circular	0.3494	0.011	0.667	0.667
P-502	184	Circular	0.3494	0.011	0.667	0.667
P-503	212.9	Circular	0.3494	0.011	0.667	0.667
P-504	221.4	Circular	0.3494	0.011	0.667	0.667
P-899	91	Circular	0.3494	0.011	0.667	0.667
P-901	274.3	Circular	0.3494	0.011	0.667	0.667
P-904	186	Circular	0.3494	0.011	0.667	0.667
P-265	104.8	Circular	0.3494	0.011	0.667	0.667
P-266	204.4	Circular	0.3494	0.011	0.667	0.667
P-505	130.9	Circular	0.3494	0.011	0.667	0.667
P-267	119	Circular	0.3494	0.011	0.667	0.667
P-268	215.2	Circular	0.3494	0.011	0.667	0.667
P-261	206.5	Circular	0.3494	0.011	0.667	0.667
P-262	303.3	Circular	0.3494	0.011	0.667	0.667
P-269	175	Circular	0.3494	0.011	0.667	0.667
P-270	175	Circular	0.3494	0.011	0.667	0.667
P-271	265	Circular	0.3494	0.011	0.667	0.667
P-263	217.3	Circular	0.3494	0.011	0.667	0.667
P-264	212	Circular	0.3494	0.011	0.667	0.667
P-272	235	Circular	0.3494	0.011	0.667	0.667
P-273	241	Circular	0.3494	0.011	0.667	0.667
P-259	243	Circular	0.3494	0.011	0.667	0.667
P-260	196.6	Circular	0.3494	0.011	0.667	0.667
P-278	223.9	Circular	0.3494	0.011	0.667	0.667
P-277	228.5	Circular	0.3494	0.011	0.667	0.667
P-283	290.1	Circular	0.3494	0.011	0.667	0.667
P-284	173	Circular	0.3494	0.011	0.667	0.667
P-257	275	Circular	0.3494	0.011	0.667	0.667
P-258	275	Circular	0.3494	0.011	0.667	0.667
P-308	204	Circular	0.3494	0.011	0.667	0.667
P-311	255.2	Circular	0.3494	0.011	0.667	0.667
P-276	276	Circular	0.3494	0.011	0.667	0.667
P-275	254.6	Circular	0.3494	0.011	0.667	0.667
P-208	302.8	Circular	0.3494	0.011	0.667	0.667
P-207	185	Circular	0.3494	0.011	0.667	0.667
P-205	184	Circular	0.3494	0.011	0.667	0.667
P-204	134.6	Circular	0.3494	0.011	0.667	0.667
P-199	279.7	Circular	0.3494	0.011	0.667	0.667
P-202	219.2	Circular	0.3494	0.011	0.667	0.667
P-211	119	Circular	0.3494	0.011	0.667	0.667
P-209	267.7	Circular	0.3494	0.011	0.667	0.667
P-210	232.5	Circular	0.3494	0.011	0.667	0.667
P-3077	332.4	Circular	1.7671	0.011	1.5	1.5
P-3073	294.6	Circular	1.7671	0.011	1.5	1.5
P-3067	330.4	Circular	1.7671	0.011	1.5	1.5
P-3069	159.5	Circular	1.7671	0.011	1.5	1.5
P-3070	164.9	Circular	1.7671	0.011	1.5	1.5
P-3088	295	Circular	0.3494	0.011	0.667	0.667
P-3092	165.1	Circular	0.3494	0.011	0.667	0.667
P-3093	165	Circular	0.3494	0.011	0.667	0.667
P-17061	20	Circular	1.2272	0.011	1.25	1.25
P-2956	28.2	Circular	1.7671	0.011	1.5	1.5
P-2957	316.5	Circular	1.7671	0.011	1.5	1.5
P-2958	325.5	Circular	1.7671	0.011	1.5	1.5
P-197	221	Circular	0.545	0.011	0.833	0.833
P-274	247	Circular	0.3494	0.011	0.667	0.667
P-2917	333	Circular	0.5411	0.011	0.83	0.83
P-198	130	Circular	0.5411	0.011	0.83	0.83
P-1000	33	Circular	0.545	0.011	0.833	0.833
FREE	#	1	Undefnd			
FREE	#	2	Undefnd			

Table 2
Tabular Model Data - South Basin

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Invert Elevation (ft)			
MH-993	689	682.09	681.42			
MH-999	683.01	674.01	672.26			
MH-1001	685.92	679.09	678.42			
MH-2496	685.3	676.26	674.8			
MH-2497	687.62	677.79	677.12			
MH-2499	690.87	679.29	678.62			
MH-2507	691.29	680.46	679.79			
MH-2592	687.8	676.55	675.72			
MH-2594	691.34	678.34	676.67			
MH-2598	693.94	680.53	679.86			
MH-2599	692.41	682.41	681.74			
MH-2610	692.87	684.29	683.62			
MH-2630	694	678.45	677.62			
MH-2631	697.74	686.59	678.49			
MH-2645	683.5	674.75	673.92			
MH-2707	696.91	687.91	687.24			
MH-2709	696.97	689.22	688.55			
MH-2743	697.98	690.48	689.81			
MH-2831	685.54	678.45	677.62			
MH-2833	687.69	680.61	679.94			
MH-2835	689.67	681.01	680.34			
MH-2836	690.3	681.97	681.3			
MH-2839	686.55	676.55	675.72			
MH-2840	683.76	677.17	676.34			
MH-2895	690.15	682.49	681.82			
MH-2898	695.43	687.6	686.93			
MH-2920	694.86	691.09	681.86			
MH-2921	696.85	689.09	683.02			
MH-2922	702.44	690.28	689.61			
MH-2933	692.47	684.69	683.3			
MH-2939	705.43	695.09	694.42			
MH-2960	699.96	691.88	691.21			
MH-2975	698	680.05	679.38			
MH-2976	698.01	680.93	680.26			
MH-2978	698.89	681.73	681.06			
MH-3072	698.54	689.38	688.71			
MH-3073	700.04	690.46	689.79			
MH-3074	702.25	691.34	690.67			
MH-3075	706.07	694.41	693.74			
MH-3076	709.37	696.62	695.95			
MH-3078	710	698.82	698.15			
MH-3079	708.94	701.28	700.61			
MH-3080	693.25	681.09	680.42			
MH-3081	690.5	682.79	682.12			
MH-3082	694.34	685.11	683.76			
MH-3083	695.83	687.08	686.41			
MH-3086	697.88	687.13	686.46			
MH-3087	698.06	689.18	687.81			
MH-3200	681.42	672.85	671.09			
MH-3204	685.4	672.26	668.99			
MH-3207	684.51	671.75	669.76			
MH-4634	701.25	693.59	692.92			
MH-16260	705.51	694.88	694.21			
MH-16261	706.26	695.38	694.71			
MH-16262	705.11	696.28	695.61			
MH-16263	706.02	696.58	695.91			
MH-16264	706.73	697.07	696.4			
MH-16265	707.89	697.51	696.84			
MH-16266	706.71	694.37	691.66			
MH-635	676.2	669.92	668.62			
MH-1005	682.65	678.49	671.4			
MH-1006	689.42	681.09	680.42			
MH-2646	683.4	673.15	672.32			
MH-4319	679	670.79	670.11			
MH-4320	683	672.44	671.59			
MH-4321	677.62	670.85	670.02			
MH-604	685.1	674.55	666.32			
MH-634	679	668.26	667.43			
MH-2841	678	673.76	667.25			
MH-2842	679.5	674.74	674.07			
MH-2843	682.25	675.55	674.88			
MH-3208	680	665.87	663.88			
MH-3209	679	667.4	665.65			
MH-3210	678	668.43	666.68			
MH-4343	678	674.04	673.09			
MH-4344	684.5	675.19	674.52			
MH-602	675.4	663.95	663.12			
MH-603	680	665.55	664.72			
MH-621	687.5	676.09	675.42			
MH-622	690	678.1	677.43			
MH-624	690	680.16	679.49			

Table 2
Tabular Model Data - South Basin

Conduit Name	Length	Conduit Class	Area	Manning Coef.	Max Width	Depth
	(ft)		(ft^2)		(ft)	(ft)
P-795	260	Circular	0.3526	0.011	0.67	0.67
P-796	306	Circular	0.3526	0.011	0.67	0.67
P-797	207	Circular	0.3526	0.011	0.67	0.67
P-798	195	Circular	0.3526	0.011	0.67	0.67
P-799	214	Circular	0.3526	0.011	0.67	0.67
P-800	220	Circular	0.3526	0.011	0.67	0.67
P-587	151	Circular	0.5411	0.011	0.83	0.83
P-589	154	Circular	0.5411	0.011	0.83	0.83
P-591	153	Circular	0.5411	0.011	0.83	0.83
P-592	153	Circular	0.5411	0.011	0.83	0.83
P-594	154	Circular	0.5411	0.011	0.83	0.83
P-596	141	Circular	0.5411	0.011	0.83	0.83
P-1055	261	Circular	2.4053	0.011	1.75	1.75
P-1056	258	Circular	2.4053	0.011	1.75	1.75
P-1057	156	Circular	2.4053	0.011	1.75	1.75
P-281	263	Circular	0.3526	0.011	0.67	0.67
P-282	187	Circular	0.3526	0.011	0.67	0.67
P-525	201	Circular	0.3526	0.011	0.67	0.67
P-536	251	Circular	0.3526	0.011	0.67	0.67
P-538	248	Circular	0.3526	0.011	0.67	0.67
P-739	195	Circular	0.5411	0.011	0.83	0.83
P-737	199	Circular	0.5411	0.011	0.83	0.83
P-565	214	Circular	0.3526	0.011	0.67	0.67
P-569	214	Circular	0.3526	0.011	0.67	0.67
P-571	213	Circular	0.3526	0.011	0.67	0.67
P-766	174	Circular	0.3526	0.011	0.67	0.67
P-768	131	Circular	0.3526	0.011	0.67	0.67
P-681	170	Circular	0.3526	0.011	0.67	0.67
P-683	170	Circular	0.3526	0.011	0.67	0.67
P-692	260	Circular	0.3526	0.011	0.67	0.67
P-693	290	Circular	0.5411	0.011	0.83	0.83
P-263	210	Circular	0.3526	0.011	0.67	0.67
P-610	175	Circular	0.3526	0.011	0.67	0.67
P-611	169	Circular	0.3526	0.011	0.67	0.67
P-833	235	Circular	0.3526	0.011	0.67	0.67
P-835	210	Circular	0.3526	0.011	0.67	0.67
P-837	209	Circular	0.3526	0.011	0.67	0.67
P-841	291	Circular	0.3526	0.011	0.67	0.67
P-844	185	Circular	0.3526	0.011	0.67	0.67
P-845	233	Circular	0.3526	0.011	0.67	0.67
P-1996	54	Circular	0.3526	0.011	0.67	0.67
P-864	110	Circular	0.3526	0.011	0.67	0.67
P-872	182	Circular	0.3526	0.011	0.67	0.67
P-873	127	Circular	0.3526	0.011	0.67	0.67
P-876	197	Circular	0.3526	0.011	0.67	0.67
P-881	187	Circular	0.3526	0.011	0.67	0.67
P-883	177	Circular	0.3526	0.011	0.67	0.67
P-792	400	Circular	0.3526	0.011	0.67	0.67
P-788	296	Circular	0.3526	0.011	0.67	0.67
P-2328	115	Circular	0.3526	0.011	0.67	0.67
P-786	292	Circular	0.3526	0.011	0.67	0.67
P-17598	124	Circular	0.3526	0.011	0.67	0.67
P-17599	71	Circular	0.3526	0.011	0.67	0.67
P-17600	233	Circular	0.3526	0.011	0.67	0.67
P-17601	171	Circular	0.3526	0.011	0.67	0.67
P-17602	93	Circular	0.3526	0.011	0.67	0.67
P-17604	201	Circular	0.3526	0.011	0.67	0.67
P-783	270	Circular	0.3526	0.011	0.67	0.67
P-287	255	Circular	0.3526	0.011	0.67	0.67
P-1888	249.4	Circular	0.5411	0.011	0.83	0.83
P-1887	175.3	Circular	0.5411	0.011	0.83	0.83
P-1885	158	Circular	0.3526	0.011	0.67	0.67
P-1884	158.8	Circular	0.3526	0.011	0.67	0.67
P-2991	58.5	Circular	0.3526	0.011	0.67	0.67
P-600	139.3	Circular	0.5411	0.011	0.83	0.83
P-601	131.1	Circular	0.5411	0.011	0.83	0.83
P-1059	331.4	Circular	2.4053	0.011	1.75	1.75
P-1060	92.1	Circular	2.4053	0.011	1.75	1.75
P-1061	172	Circular	2.4053	0.011	1.75	1.75
P-1062	242.5	Circular	2.4053	0.011	1.75	1.75
P-1943	283	Circular	0.3526	0.011	0.67	0.67
P-1944	78.5	Circular	0.3526	0.011	0.67	0.67
P-753	195	Circular	0.3526	0.011	0.67	0.67
P-760	244.4	Circular	0.3526	0.011	0.67	0.67
P-254	170.7	Circular	0.5411	0.011	0.83	0.83
P-255	194	Circular	0.5411	0.011	0.83	0.83
P-242	208	Circular	0.3526	0.011	0.67	0.67
P-243	202	Circular	0.3526	0.011	0.67	0.67
P-244	144	Circular	0.3526	0.011	0.67	0.67
P-1889	160	Circular	0.5411	0.011	0.83	0.83
P-1890	160	Circular	0.5411	0.011	0.83	0.83

APPENDIX D
SANITARY SEWER STUDY–DEVELOPMENT OF PEAK FLOW RATES

RELATIONSHIP BETWEEN RAINFALL INTENSITY AND PEAK FLOW RATE FOR THE FOREST PARK STUDY AREA

1. Initial Rainfall/Peak Flow Analysis

   a. The initial analysis of the relationship between rainfall intensity and peak flow rates relied on data available for the June 19, 2009 event.

   b. Short duration rainfall data was available for the rain gauge located at the Kenosha Water Utility (KWU). Rainfall intensities recorded at the KWU site indicated a recurrence interval of approximately 2 years±.

   c. The initial analysis assumed that the June 19 event was approximately a 2-year recurrence interval rainfall event in the Forest Park Study area.

   d. KWU staff indicated that they believe the June 19 event was a larger recurrence interval event, especially in the Forest Park area.

2. June 19, 2006–Evaluation of Available Rainfall Information and Development of Rainfall Intensity/Peak Flow Relationship

   a. Rainfall Intensity: KWU staff and available Doppler radar imagery indicate that the peak rainfall intensity during the June 19 event occurred between approximately 6 P.M. and 7 P.M. ±. (The actual peak rainfall intensity period was 45 to 55 minutes. Coincidentally, this is the same time frame within which the flow meters experienced the largest increase in flow rate.) A review of the rainfall data associated with the rain gauge located at the KWU shows the following:

KWU Rain Gauge	
Time Period	**Rain (in)**
Midnight to 6 P.M.	1.43
6 P.M. to 7 P.M.	1.25
7 P.M. to Midnight	0.77
Total	3.45

      (1) KWU staff have indicated that the rainfall characteristics recorded at the KWU rain gauge *do not* accurately represent the rainfall that occurred in the Forest Park Study area. An adjacent rain gauge, located at the Pleasant Prairie WWTP, recorded a total of 5.95 inches on June 19 (note that the Pleasant Prairie rain gauge only records daily total rainfall).

      (2) A review of Doppler radar images obtained from the National Weather Service shows that *prior to* the 6 to 7 P.M. rainfall event, rainfall patterns were fairly uniform over the southeastern part of the state. Similarly, once the high intensity

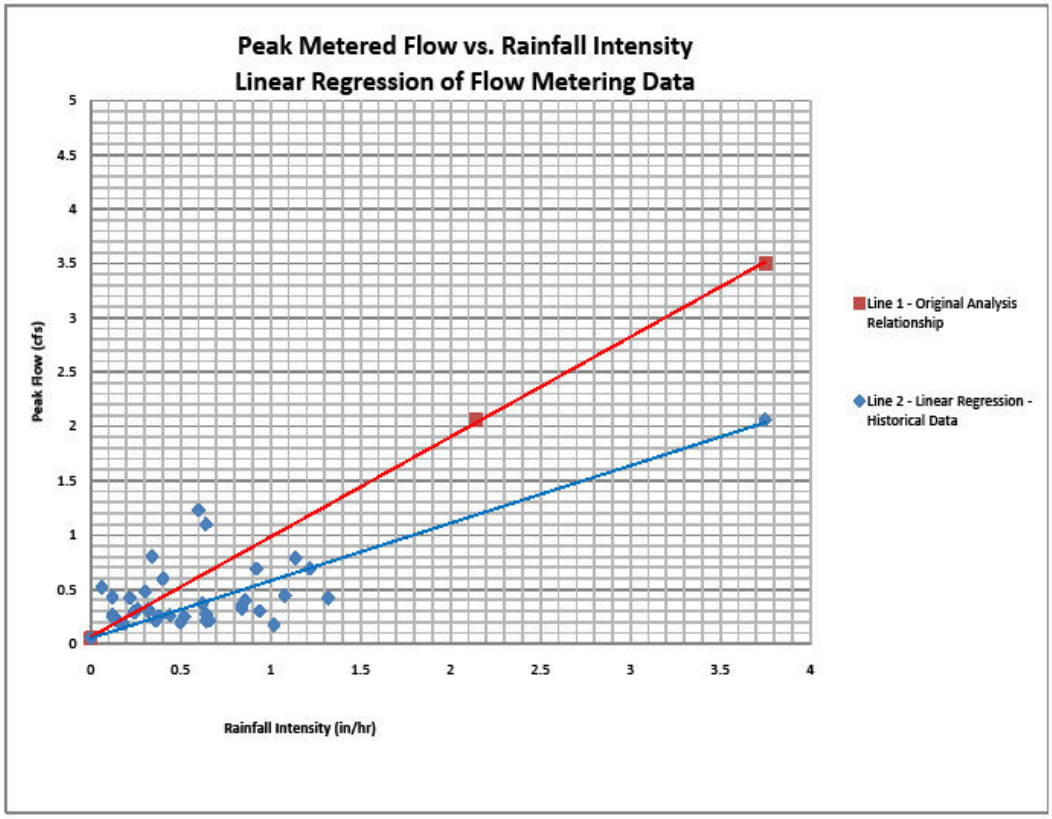
event passed through the area, rainfall patterns once again appeared to be relatively uniform.

(3) If it is assumed that the rainfall patterns in Forest Park *prior to and after* the 6 to 7 P.M. event were similar to the *KWU rain gauge*, and that the overall total rainfall in the Forest Park area was similar to the *Pleasant Prairie total*, the following estimated 6 to 7 P.M. rainfall total can be calculated:

5.95 inches (Pleasant Prairie–Daily Total Rainfall)
- 1.43 inches (KWU rain gauge prior to 6 P.M.)
- 0.77 inches (KWU rain gauge after 7 P.M.)
= 3.75 inches (6 to 7 P.M.)

(4) SEWRPC Technical Report No. 40 (Rainfall Frequency in the Southeastern Wisconsin Region) indicates that a 1-hour rainfall total of 3.75 inches would equate to a rainfall event with a recurrence interval in excess of 100 years. An approximate 30-minute rainfall total may be half of the 60-minute total, or 1.88 inches. The SEWRPC TR-40 report indicates the 30-minute total rainfall for a 50-year recurrence interval event is 1.85 inches. These analyses would seem to indicate that the June 19 event was at least a 50-year rainfall event. For purposes of this evaluation, it will be assumed that the June 19 rainfall event had a recurrence interval of 50 years.

b. Peak Flow: The peak metered flow associated with the June 19 event was 2.06 cfs. If a linear regression analysis is performed on the historical peak flow data (blue diamonds on intensity vs. peak flow graph), the regression line (blue line) falls very close to the peak flow data point associated with the June 19 event. Refer to Line 1, which documents this linear regression.



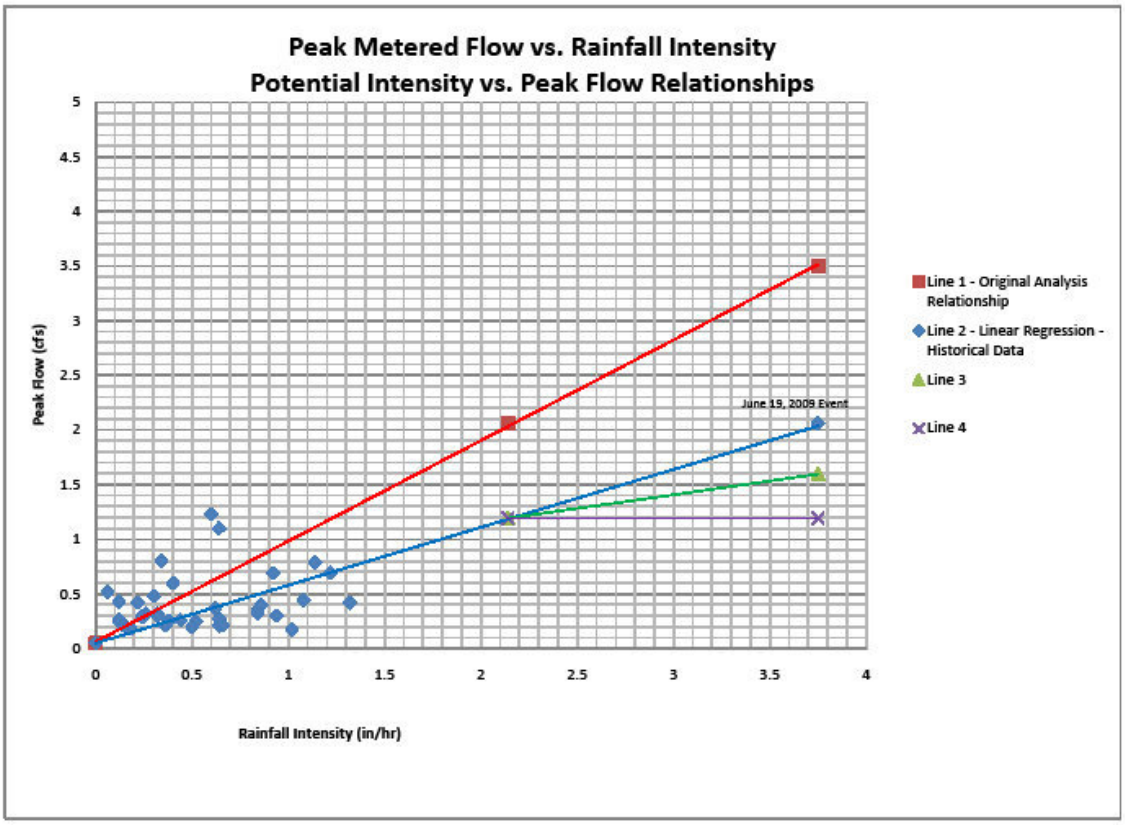
3. <u>Analysis of Potential System Response to Rainfall Events and Development of Peak Flow Rates for Collection System Analysis</u>

   a. Typically, sanitary sewer systems do not exhibit a linear relationship between rainfall intensity and flow beyond a 1- to 2-year recurrence interval. Higher rainfall intensities overwhelm the "defects" associated with the sanitary sewer system–the water simply cannot enter the collection system as fast as the rain is falling. This is analogous to inlet constraint in a storm sewer system.

   b. When actual flow metering data does not exist for these higher intensity rainfall events, assumptions are required to estimate peak flow rates.

   c. Line 3 represents the assumption that the peak flow rates associated with higher intensity rainfalls do increase but at a slower rate than the linear regression would indicate (as shown by the decreasing slope of the line beyond the 2-year recurrence interval).

   d. Line 4 represents the assumption that the peak flow rates associated with higher intensity rainfalls do not increase.


Peak Metered Flow vs. Rainfall Intensity
Potential Intensity vs. Peak Flow Relationships
Peak Flow (cfs)
Rainfall Intensity (in/hr)
June 19, 2009 Event
Line 1 - Original Analysis Relationship
Line 2 - Linear Regression - Historical Data
Line 3
Line 4

APPENDIX E
MODEL OUTPUT–EXISTING SANITARY SYSTEM

Table 1
6-Month Recurrence Interval Event - Modeling Results - Existing Conditions
Pipe Summary - North Basin

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-1002	688.01	679.257	678.59	0	0	0	9.42	12.566	0	0	0
MH-1003	680.47	670.887	670.362	46	17	0	10.108	12.566	0	0	0
MH-1004	686.45	679.867	679.29	46	15	0	7.16	12.566	0	0	0
MH-16339	678.6	678.087	677.5188	46	16	0	1.0812	12.566	0	0	0
MH-16365	694.8	686.137	685.6758	46	21	0	9.1242	12.566	0	0	0
MH-16366	692.73	685.257	683.2816	46	20	0	9.4484	12.566	0	0	0
MH-16369	677.35	667.487	660.9198	46	22	0	16.4302	12.566	0	0	0
MH-1822	687.46	675.707	675.1574	46	17	0	12.3026	12.566	0	0	0
MH-1823	692.89	682.807	682.244	46	16	0	10.646	12.566	0	0	0
MH-1824	700.02	689.907	689.345	46	15	0	10.675	12.566	0	0	0
MH-1885	694.17	687.007	686.5392	46	19	0	7.6308	12.566	0	0	0
MH-1886	697.35	688.597	688.0554	46	16	0	9.2946	12.566	0	0	0
MH-1888	698.76	690.177	689.6363	46	15	0	9.1237	12.566	0	0	0
MH-1891	682.47	674.387	672.7713	46	18	0	9.6987	12.566	0	0	0
MH-1893	690.94	681.187	680.6313	46	17	0	10.3087	12.566	0	0	0
MH-1895	696.5	684.587	684.0616	46	15	0	12.4384	12.566	0	0	0
MH-3088	698.25	689.087	688.5192	46	18	0	9.7308	12.566	0	0	0
MH-3089	700.35	690.187	689.6607	46	16	0	10.6893	12.566	0	0	0
MH-3090	699.25	690.917	690.3579	46	15	0	8.8921	12.566	0	0	0
MH-320	660.66	644.41	643.8518	46	47	0	16.8082	12.566	0	0	0
MH-343	660.87	647.813	646.2063	46	47	0	14.6637	12.566	0	0	0
MH-354	660.62	649.886	649.9419	46	31	0.0559	10.6781	12.566	0	0	0
MH-355	666.12	652.105	651.7796	46	30	0	14.3404	12.566	0	0	0
MH-356	670.73	659.087	654.3662	46	29	0	16.3638	12.566	0	0	0
MH-357	662.42	655.81	651.6613	46	16	0	10.7587	12.566	0	0	0
MH-358	666.59	658.5	657.7649	46	15	0	8.8251	12.566	0	0	0
MH-374	666.5	657.5	655.9515	46	28	0	10.5485	12.566	0	0	0
MH-375	664.75	657.12	656.518	46	48	0	8.232	12.566	0	0	0
MH-396	668.15	656.737	656.2251	46	18	0	11.9249	12.566	0	0	0
MH-4199	692.91	676.41	675.5615	46	45	0	17.3485	12.566	0	0	0
MH-466	675.12	663.207	662.6321	46	17	0	12.4879	12.566	0	0	0
MH-467	681.52	672.087	669.1129	46	16	0	12.4071	12.566	0	0	0
MH-468	689.87	679.287	678.7221	46	16	0	11.1479	12.566	0	0	0
MH-470	672.35	661.017	660.4783	46	18	0	11.8717	12.566	0	0	0
MH-471	681.46	670.297	669.7196	46	16	0	11.7404	12.566	0	0	0
MH-472	682.45	673.287	672.7218	46	15	0	9.7282	12.566	0	0	0
MH-5152	670.49	658.649	658.203	46	24	0	12.287	12.566	0	0	0
MH-5174	665.92	655.353	655.3019	46	29	0	10.6181	12.566	0	0	0
MH-5568	658.82	646.99	645.9429	46	32	0	12.8771	12.566	0	0	0
MH-5571	661.85	648.81	647.5659	46	31	0	14.2841	12.566	0	0	0
MH-5572	665.87	652.87	651.17	0	0	0	14.7	12.566	0	0	0
MH-5574	665.94	653.05	650.6306	46	46	0	15.3094	12.566	0	0	0
MH-5724	677.33	667.333	666.8839	46	21	0	10.4461	12.566	0	0	0
MH-6069	660.42	645.72	645.3636	46	47	0	15.0564	12.566	0	0	0
MH-6075	681.16	666.16	665.2671	46	45	0	15.8929	12.566	0	0	0
MH-6090	662.05	649.4	648.6127	46	31	0	13.4373	12.566	0	0	0
MH-6092	682.68	670.347	669.7501	46	15	0	12.9299	12.566	0	0	0
MH-6168	663.92	650.467	649.9597	46	18	0	13.9603	12.566	0	0	0
MH-669	681.05	670.713	670.1892	46	20	0	10.8608	12.566	0	0	0
MH-670	689.72	671.887	670.7767	46	18	0	18.9433	12.566	0	0	0
MH-671	696.64	672.887	672.3431	46	16	0	24.2969	12.566	0	0	0
MH-672	678.61	668.443	667.9915	46	21	0	10.6185	12.566	0	0	0
MH-673	683.22	674.887	674.3036	46	16	0	8.9164	12.566	0	0	0
MH-674	690.96	681.627	681.0443	46	15	0	9.9157	12.566	0	0	0
MH-871	679.09	670.11	669.5593	46	17	0	9.5307	12.566	0	0	0
MH-877	685.75	674.587	674.0347	46	15	0	11.7153	12.566	0	0	0
MH-879	676.54	666.487	665.8999	46	22	0	10.6401	12.566	0	0	0
MH-884	681.49	672.087	664.5653	46	23	0	16.9247	12.566	0	0	0
MH-886	687.77	677.107	676.5351	46	17	0	11.2349	12.566	0	0	0
MH-887	688.81	682.057	681.4845	46	15	0	7.3255	12.566	0	0	0
MH-937	680.8	672.227	671.8411	46	19	0	8.9589	12.566	0	0	0
MH-938	682.09	674.177	673.7172	46	20	0	8.3728	12.566	0	0	0
MH-940	695.96	688.957	688.331	46	15	0	7.629	12.566	0	0	0
MH-943	682.72	674.344	673.794	46	17	0	8.926	12.566	0	0	0
MH-944	686.14	678.35	677.8012	46	15	0	8.3388	12.566	0	0	0
MH-946	691.27	682.357	681.8078	46	15	0	9.4622	12.566	0	0	0
MH-961	679.46	668.457	667.896	46	47	0	11.564	12.566	0	0	0
MH-962	689.04	680.457	679.8572	46	15	0	9.1828	12.566	0	0	0
MH-968	681.12	668.299	667.8195	46	48	0	13.3005	12.566	0	0	0
MH-969	680.17	669.087	668.5976	46	15	0	11.5724	12.566	0	0	0
MH-976	678.37	669.087	663.5128	46	49	0	14.8572	12.566	0	0	0
MH-983	680.15	663.183	662.7766	46	24	0	17.3734	12.566	0	0	0
MH-986	678.74	665.633	665.3762	46	23	0	13.3638	12.566	0	0	0
MH-991	681.04	671.747	670.7063	46	17	0	10.3337	12.566	0	0	0
MH-993	688.87	681.957	681.4039	46	15	0	7.4661	12.566	0	0	0

Table 1
6-Month Recurrence Interval Event - Modeling Results - Existing Conditions
Pipe Summary - North Basin

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Proposed Pipe Diameter (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends Upstream (ft)	Maximum Water Elevation at Pipe Ends Downstream (ft)	Ratio d/D US	Ratio d/D DS
P-485	2.4042	6.8805	8.004		0.1274	46	15	3.6161	46	16	0.053	689.345	682.244	0.157	0.156
P-486	2.4128	6.9053	8.004		0.1273	46	16	4.2026	0	11	0.0527	682.244	675.1574	0.156	0.176
P-487	1.8758	5.3683	8.004		0.1271	46	17	2.3879	46	17	0.0678	675.1574	670.1892	0.176	0.464
P-671	2.2315	4.0946	9.996		0.6504	46	21	3.4215	46	21	0.2915	670.1892	667.9915	0.371	0.458
P-2983	2.1464	3.9385	9.996		0.879	46	21	3.6085	46	21	0.4095	667.9915	666.8839	0.458	0.461
P-2985	2.1504	3.9458	9.996		0.8789	46	22	3.4149	46	22	0.4087	666.8839	665.8999	0.461	0.636
P-2981	1.5777	2.8951	9.996		1.0712	46	22	2.9007	46	21	0.679	665.8999	665.3762	0.636	0.692
P-2979	1.5769	2.8935	9.996		1.0711	46	23	2.7593	46	23	0.6792	665.3762	664.5653	0.692	0.487
P-521	2.7888	5.1173	9.996		1.2698	46	23	4.7936	46	23	0.4553	664.5653	662.7766	0.487	0.512
P-522	2.789	5.1177	9.996		1.2697	46	24	4.5563	46	23	0.4552	662.7766	660.9198	0.512	0.48
P-2909	3.4798	6.3852	9.996		1.5102	46	23	8.2215	0	2	0.434	660.9198	658.203	0.48	0.465
P-2910	3.4798	6.3851	9.996		1.5099	46	24	9.2551	0	2	0.4339	658.203	655.9515	0.465	0.938
P-2915	1.6161	2.9655	9.996		1.6327	46	28	4.8441	0	2	1.0103	655.9515	655.3019	0.938	0.939
P-2916	1.6166	2.9664	9.996		1.6325	46	29	3.1919	46	31	1.0098	655.3019	654.3662	0.939	0.596
P-195	2.7139	4.9798	9.996		1.7341	46	29	5.1097	46	29	0.639	654.3662	651.7796	0.596	0.609
P-196	2.7144	4.9807	9.996		1.7339	46	30	4.7901	45	53	0.6388	651.7796	649.9419	0.609	1.067
P-506	1.43	4.0926	8.004		0.1213	46	16	2.3049	46	17	0.0849	684.0616	680.6313	0.212	0.167
P-507	2.0242	5.793	8.004		0.121	46	18	3.1551	46	18	0.0598	680.6313	673.8303	0.167	0.165
P-501	1.3361	3.8238	8.004		0.103	46	15	2.2387	46	16	0.0771	689.6363	688.0554	0.189	0.188
P-502	1.3293	3.8045	8.004		0.1029	46	16	2.065	46	16	0.0774	688.0554	686.5392	0.188	0.299
P-503	0.9141	2.6162	8.004		0.1751	46	19	1.9881	46	19	0.1915	686.5392	685.6758	0.299	0.309
P-504	0.9016	2.5802	8.004		0.1748	46	21	1.924	46	22	0.1938	685.6758	684.7814	0.309	0.287
P-899	1.2808	3.6656	8.004		0.0728	46	15	1.8958	46	15	0.0568	690.3579	689.6607	0.162	0.211
P-901	0.9056	2.5917	8.004		0.0726	46	17	1.4057	46	17	0.0802	689.6607	688.5192	0.211	0.149
P-904	1.5122	4.3279	8.004		0.0725	46	18	3.1206	0	4	0.0479	688.5192	686.5392	0.149	0.299
P-265	3.167	9.0637	8.004		0.0243	46	15	1.8548	46	15	0.0077	688.331	683.2816	0.061	0.197
P-266	3.1056	8.8879	8.004		0.2647	46	20	4.9763	46	19	0.0852	683.2816	673.7172	0.197	0.311
P-505	1.2636	3.6163	8.004		0.2646	46	21	2.7159	46	21	0.2094	673.7172	672.7713	0.311	0.425
P-267	1.2628	3.6141	8.004		0.4517	46	18	3.1986	46	19	0.3577	672.7713	671.8411	0.425	0.421
P-268	1.2635	3.6161	8.004		0.4517	46	19	3.186	46	20	0.3575	671.8411	670.1892	0.421	0.464
P-261	0.9951	2.848	8.004		0.0726	46	16	1.6371	46	16	0.0729	672.3431	671.3412	0.184	0.182
P-262	0.7876	2.254	8.004		0.0725	46	18	0.9981	46	17	0.092	670.7767	670.1892	0.205	0.703
P-269	2.1639	6.1929	8.004		0.1458	46	15	3.4915	46	15	0.0674	681.8078	677.8012	0.177	0.177
P-270	2.1636	6.1921	8.004		0.1457	46	16	3.4786	46	17	0.0674	677.8012	673.794	0.177	0.175
P-271	2.1638	6.1925	8.004		0.1456	46	17	2.5176	46	16	0.0673	673.794	667.9915	0.175	0.572
P-263	2.5185	7.2078	8.004		0.0849	46	15	3.3095	46	16	0.0337	681.0443	674.3036	0.126	0.125
P-264	2.5251	7.2266	8.004		0.0848	46	16	1.9528	46	15	0.0336	674.3036	667.9915	0.125	0.572
P-272	3.2315	9.2483	8.004		0.0693	46	15	3.409	46	15	0.0214	679.8572	667.896	0.101	0.159
P-273	1.2929	3.7002	8.004		0.0691	46	47	1.9357	46	47	0.0534	667.896	665.9244	0.159	0.157
P-259	1.941	5.5551	8.004		0.1246	46	15	3.0958	46	15	0.0642	674.0347	669.5593	0.172	0.174
P-260	1.9413	5.5558	8.004		0.1244	46	17	3.0436	46	17	0.0641	669.5593	665.9338	0.174	0.171
P-278	1.8801	5.3806	8.004		0.1176	46	16	2.961	46	16	0.0625	681.4039	677.5325	0.171	0.169
P-277	2.4706	7.0705	8.004		0.1175	46	16	3.5855	46	16	0.0476	677.5188	670.7063	0.148	0.159
P-283	2.1307	6.0978	8.004		0.1174	46	17	2.1594	46	47	0.0551	670.7063	664.5653	0.159	0.608
P-284	2.9795	8.5271	8.004		0	0	0	0	0	0	0	670.7063	670.7063	0	0
P-257	1.9186	5.4908	8.004		0.083	46	15	2.7223	46	15	0.0432	681.4845	676.5351	0.142	0.143
P-258	1.9321	5.5295	8.004		0.0828	46	17	2.7018	46	18	0.0428	676.5351	671.5131	0.143	0.14
P-308	3.0003	8.5867	8.004		0.1177	46	15	3.8019	46	15	0.0392	679.29	670.362	0.135	0.213
P-311	1.201	3.4372	8.004		0.1173	46	17	2.1569	46	17	0.0977	670.362	668.5604	0.213	0.21
P-276	1.202	3.4401	8.004		0.1172	46	49	2.1394	46	49	0.0975	663.5128	661.5602	0.214	0.21
P-275	0.8076	2.3113	8.004		0.1241	46	48	1.5714	46	49	0.1536	667.8195	666.9807	0.281	0.241
P-208	2.2051	6.3109	8.004		0.1105	46	16	3.2599	46	16	0.0501	678.7221	671.5209	0.153	0.151
P-207	2.6764	7.6596	8.004		0.1105	46	16	3.7272	46	17	0.0413	669.1129	662.6321	0.139	0.138
P-205	2.6816	7.6744	8.004		0.1105	46	17	16.5301	0	2	0.0412	662.6321	656.2251	0.138	0.232
P-204	0.9306	2.6633	8.004		0.1104	46	18	1.5522	42	47	0.1186	656.2251	655.9515	0.232	0.677
P-199	0.9548	2.7327	8.004		0.0189	46	45	1.0713	46	45	0.0198	657.7649	656.518	0.097	0.097
P-202	0.9429	2.6985	8.004		0.0188	46	48	0.7864	42	35	0.02	656.518	655.9515	0.097	0.677
P-211	2.2668	6.4873	8.004		0.1037	46	15	3.119	46	16	0.0458	672.7218	669.7196	0.153	0.134
P-209	2.6625	7.62	8.004		0.1036	46	16	3.4449	46	15	0.0389	669.7196	660.4783	0.134	0.192
P-210	1.3029	3.7288	8.004		0.1034	46	18	2.8969	0	2	0.0793	660.4783	658.5466	0.192	0.19
P-3077	21.7997	12.3361	18		7.7868	46	45	10.6763	46	45	0.3572	675.5615	665.2671	0.434	0.405
P-3073	26.1881	14.8194	18		7.7836	46	46	11.7265	46	46	0.2972	665.2671	652.11	0.405	0.373
P-3067	15.7527	8.9142	18		7.7831	46	46	7.7248	46	46	0.4941	650.6306	646.2063	0.514	1.111
P-3069	5.5605	3.1466	18		7.9521	46	47	4.4035	46	47	1.4301	646.2063	645.3636	1.111	0.762
P-3070	11.0648	6.2614	18		7.9519	46	47	5.6098	46	48	0.7187	645.3636	643.8518	0.762	0.628
P-3088	3.55	10.1599	8.004		0.083	46	15	3.4144	46	15	0.0234	669.7501	651.6613	0.105	0.242
P-3092	1.4511	4.1529	8.004		0.1815	46	17	2.7892	46	18	0.1251	651.6613	649.9597	0.242	0.239
P-3093	1.443	4.1297	8.004		0.1814	46	18	2.3376	0	2	0.1257	649.9597	648.6127	0.239	0.739
P-17061	13.1123	10.6849	15		1.911	46	31	4.8138	46	31	0.1457	648.6127	647.8816	0.37	0.257
P-2956	9.9182	5.6125	18		0	0	0	0	0	0	0	651.17	651.17	0	0
P-2957	14.0776	7.9663	18		0	0	0	0	0	0	0	651.17	647.5659	0	0
P-2958	8.7309	4.9407	18		1.7364	46	32	3.7234	46	32	0.1989	647.5659	645.9429	0.311	0.302
P-197	1.6806	3.0839	9.996		1.7337	46	31	3.277	47	19	1.0315	649.9419	648.6127	1.067	0.592
P-274	0.8077	2.3116	8.004		0.1245	46	16	1.6548	46	16	0.1542	668.5976	667.8195	0.266	0.281
P-2917	1.6007	2.9584	9.96		0	0	0	0	0	0	0	654.3662	654.3662	0	0
P-198	3.6852	6.811	9.96		0.0987	46	15	2.8747	46	15	0.0268	657.7649	655.0724	0.114	0.111
P-1000	3.0205	5.5424	9.996		0.1745	46	31	3.0126	46	32	0.0578	647.5659	647.1156	0.163	0.163
FREE	#	1	Undefnd		Undefnd	Undefn	7.9519	46	47						
FREE	#	2	Undefnd		Undefnd	Undefn	1.7364	46	32						

Table 2
1-Year Recurrence Interval Event - Modeling Results - Existing Conditions
Pipe Summary - North Basin

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-1002	688.01	679.257	678.59	0	0	0	9.42	12.566	0	0	0
MH-1003	680.47	670.887	670.3752	46	17	0	10.0948	12.566	0	0	0
MH-1004	686.45	679.867	679.298	46	15	0	7.152	12.566	0	0	0
MH-16339	678.6	678.087	677.5278	46	16	0	1.0722	12.566	0	0	0
MH-16365	694.8	686.137	685.6978	46	21	0	9.1022	12.566	0	0	0
MH-16366	692.73	685.257	683.2947	46	19	0	9.4353	12.566	0	0	0
MH-16369	677.35	667.487	660.9572	46	23	0	16.3928	12.566	0	0	0
MH-1822	687.46	675.707	675.1692	46	17	0	12.2908	12.566	0	0	0
MH-1823	692.89	682.807	682.2541	46	16	0	10.6359	12.566	0	0	0
MH-1824	700.02	689.907	689.3553	46	15	0	10.6647	12.566	0	0	0
MH-1885	694.17	687.007	686.5603	46	18	0	7.6097	12.566	0	0	0
MH-1886	697.35	688.597	688.068	46	16	0	9.282	12.566	0	0	0
MH-1888	698.76	690.177	689.6491	46	15	0	9.1109	12.566	0	0	0
MH-1891	682.47	674.387	672.8045	46	18	0	9.6655	12.566	0	0	0
MH-1893	690.94	681.187	680.6424	46	17	0	10.2976	12.566	0	0	0
MH-1895	696.5	684.587	684.0758	46	15	0	12.4242	12.566	0	0	0
MH-3088	698.25	689.087	688.529	46	18	0	9.721	12.566	0	0	0
MH-3089	700.35	690.187	689.6748	46	16	0	10.6752	12.566	0	0	0
MH-3090	699.25	690.917	690.3683	46	15	0	8.8817	12.566	0	0	0
MH-320	660.66	644.41	643.9675	46	47	0	16.6925	12.566	0	0	0
MH-343	660.87	647.813	646.6444	46	46	0	14.2256	12.566	0	0	0
MH-354	660.62	649.886	650.3972	46	33	0.5112	10.2228	12.566	0	0	0
MH-355	666.12	652.105	651.9249	46	33	0	14.1951	12.566	0	0	0
MH-356	670.73	659.087	654.4302	46	31	0	16.2998	12.566	0	0	0
MH-357	662.42	655.81	651.6757	46	46	0	10.7443	12.566	0	0	0
MH-358	666.59	658.5	657.7724	46	45	0	8.8176	12.566	0	0	0
MH-374	666.5	657.5	656.6818	46	30	0	9.8182	12.566	0	0	0
MH-375	664.75	657.12	656.6845	46	33	0	8.0655	12.566	0	0	0
MH-396	668.15	656.737	656.6941	46	30	0	11.4559	12.566	0	0	0
MH-4199	692.91	676.41	675.6204	46	45	0	17.2896	12.566	0	0	0
MH-466	675.12	663.207	662.6404	46	17	0	12.4796	12.566	0	0	0
MH-467	681.52	672.087	669.1214	46	16	0	12.3986	12.566	0	0	0
MH-468	689.87	679.287	678.7312	46	15	0	11.1388	12.566	0	0	0
MH-470	672.35	661.017	660.4901	46	17	0	11.8599	12.566	0	0	0
MH-471	681.46	670.297	669.7277	46	16	0	11.7323	12.566	0	0	0
MH-472	682.45	673.287	672.7311	46	15	0	9.7189	12.566	0	0	0
MH-5152	670.49	658.649	658.322	46	26	0	12.168	12.566	0	0	0
MH-5174	665.92	655.353	655.6391	46	31	0.2861	10.2809	12.566	0	0	0
MH-5568	658.82	646.99	645.9781	46	39	0	12.8419	12.566	0	0	0
MH-5571	661.85	648.81	647.6025	46	39	0	14.2475	12.566	0	0	0
MH-5572	665.87	652.87	651.17	0	0	0	14.7	12.566	0	0	0
MH-5574	665.94	653.05	650.7616	46	46	0	15.1784	12.566	0	0	0
MH-5724	677.33	667.333	666.9337	46	21	0	10.3963	12.566	0	0	0
MH-6069	660.42	645.72	645.5623	46	47	0	14.8577	12.566	0	0	0
MH-6075	681.16	666.16	665.325	46	45	0	15.835	12.566	0	0	0
MH-6090	662.05	649.4	648.6704	46	38	0	13.3796	12.566	0	0	0
MH-6092	682.68	670.347	669.7564	46	15	0	12.9236	12.566	0	0	0
MH-6168	663.92	650.467	649.9737	46	47	0	13.9463	12.566	0	0	0
MH-669	681.05	670.713	670.2245	46	20	0	10.8255	12.566	0	0	0
MH-670	689.72	671.887	670.7903	46	17	0	18.9297	12.566	0	0	0
MH-671	696.64	672.887	672.3552	46	16	0	24.2848	12.566	0	0	0
MH-672	678.61	668.443	668.0378	46	20	0	10.5722	12.566	0	0	0
MH-673	683.22	674.887	674.3116	46	16	0	8.9084	12.566	0	0	0
MH-674	690.96	681.627	681.0523	46	15	0	9.9077	12.566	0	0	0
MH-871	679.09	670.11	669.5677	46	16	0	9.5223	12.566	0	0	0
MH-877	685.75	674.587	674.0458	46	15	0	11.7042	12.566	0	0	0
MH-879	676.54	666.487	665.985	46	22	0	10.555	12.566	0	0	0
MH-884	681.49	672.087	664.6143	46	23	0	16.8757	12.566	0	0	0
MH-886	687.77	677.107	676.5436	46	17	0	11.2264	12.566	0	0	0
MH-887	688.81	682.057	681.4932	46	15	0	7.3168	12.566	0	0	0
MH-937	680.8	672.227	671.8746	46	19	0	8.9254	12.566	0	0	0
MH-938	682.09	674.177	673.7396	46	20	0	8.3504	12.566	0	0	0
MH-940	695.96	688.957	688.335	46	15	0	7.625	12.566	0	0	0
MH-943	682.72	674.344	673.8057	46	17	0	8.9143	12.566	0	0	0
MH-944	686.14	678.35	677.8132	46	15	0	8.3268	12.566	0	0	0
MH-946	691.27	682.357	681.8196	46	15	0	9.4504	12.566	0	0	0
MH-961	679.46	668.457	667.9041	46	16	0	11.5559	12.566	0	0	0
MH-962	689.04	680.457	679.8632	46	15	0	9.1768	12.566	0	0	0
MH-968	681.12	668.299	667.8376	46	18	0	13.2824	12.566	0	0	0
MH-969	680.17	669.087	668.6145	46	15	0	11.5555	12.566	0	0	0
MH-976	678.37	669.087	663.5262	46	19	0	14.8438	12.566	0	0	0
MH-983	680.15	663.183	662.8355	46	24	0	17.3145	12.566	0	0	0
MH-986	678.74	665.633	665.4623	46	23	0	13.2777	12.566	0	0	0
MH-991	681.04	671.747	670.7157	46	17	0	10.3243	12.566	0	0	0
MH-993	688.87	681.957	681.4144	46	15	0	7.4556	12.566	0	0	0

Table 2
1-Year Recurrence Interval Event - Modeling Results - Existing Conditions
Pipe Summary - North Basin

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Proposed Pipe Diameter (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends Upstream (ft)	Maximum Water Elevation at Pipe Ends Downstream (ft)	Ratio d/D US	Ratio d/D DS
P-485	2.4042	6.8805	8.004		0.1543	46	15	3.8217	46	16	0.0642	689.3553	682.2541	0.173	0.171
P-486	2.4128	6.9053	8.004		0.1542	46	16	4.2026	0	11	0.0639	682.2541	675.1692	0.171	0.194
P-487	1.8758	5.3683	8.004		0.154	46	17	2.5259	46	16	0.0821	675.1692	670.2245	0.194	0.516
P-671	2.2315	4.0946	9.996		0.7882	46	20	3.5868	46	21	0.3532	670.2245	668.0378	0.414	0.514
P-2983	2.1464	3.9385	9.996		1.065	46	20	3.7713	46	21	0.4962	668.0378	666.9337	0.514	0.521
P-2985	2.1504	3.9458	9.996		1.0649	46	21	3.535	46	21	0.4952	666.9337	665.985	0.521	0.738
P-2981	1.5777	2.8951	9.996		1.2933	46	22	2.9762	46	21	0.8197	665.985	665.4623	0.738	0.795
P-2979	1.5769	2.8935	9.996		1.2931	46	23	2.8834	46	24	0.82	665.4623	664.6143	0.795	0.545
P-521	2.7888	5.1173	9.996		1.5298	46	23	4.9912	46	24	0.5485	664.6143	662.8355	0.545	0.583
P-522	2.789	5.1177	9.996		1.5296	46	24	4.6966	46	23	0.5484	662.8355	660.9572	0.583	0.525
P-2909	3.4798	6.3852	9.996		1.816	46	23	8.2215	0	2	0.5219	660.9572	658.322	0.525	0.607
P-2910	3.4798	6.3851	9.996		1.8156	46	24	9.2551	0	2	0.5218	658.322	656.6818	0.607	1.815
P-2915	1.6161	2.9655	9.996		1.9547	46	30	4.8441	0	2	1.2095	656.6818	655.6391	1.815	1.343
P-2916	1.6166	2.9664	9.996		1.9547	46	31	3.6845	46	31	1.2091	655.6391	654.4302	1.343	0.673
P-195	2.7139	4.9798	9.996		2.076	46	31	5.2356	46	30	0.765	654.4302	651.9249	0.673	0.784
P-196	2.7144	4.9807	9.996		2.0754	46	32	4.7961	44	50	0.7646	651.9249	650.3972	0.784	1.614
P-506	1.43	4.0926	8.004		0.147	46	15	2.4387	46	16	0.1028	684.0758	680.6424	0.234	0.183
P-507	2.0242	5.793	8.004		0.1466	46	17	3.331	46	18	0.0724	680.6424	673.8408	0.183	0.181
P-501	1.3361	3.8238	8.004		0.1248	46	15	2.3662	46	16	0.0934	689.6491	688.068	0.208	0.207
P-502	1.3293	3.8045	8.004		0.1247	46	16	2.1843	46	16	0.0938	688.068	686.5603	0.207	0.33
P-503	0.9141	2.6162	8.004		0.2121	46	19	2.0954	46	19	0.232	686.5603	685.6978	0.33	0.341
P-504	0.9016	2.5802	8.004		0.2118	46	21	2.0278	46	21	0.2349	685.6978	684.8015	0.341	0.317
P-899	1.2808	3.6656	8.004		0.0881	46	15	2.0043	46	15	0.0688	690.3683	689.6748	0.177	0.232
P-901	0.9056	2.5917	8.004		0.0879	46	16	1.4876	46	17	0.0971	689.6748	688.529	0.232	0.163
P-904	1.5122	4.3279	8.004		0.0878	46	18	3.1206	0	4	0.0581	688.529	686.5603	0.163	0.33
P-265	3.167	9.0637	8.004		0.0295	46	15	1.9668	46	15	0.0093	688.335	683.2947	0.067	0.217
P-266	3.1056	8.8879	8.004		0.3207	46	19	5.2564	46	19	0.1033	683.2947	673.7396	0.217	0.344
P-505	1.2636	3.6163	8.004		0.3207	46	20	2.8567	46	21	0.2538	673.7396	672.8045	0.344	0.474
P-267	1.2628	3.6141	8.004		0.5474	46	18	3.3539	46	19	0.4335	672.8045	671.8746	0.474	0.472
P-268	1.2635	3.6161	8.004		0.5473	46	19	3.3363	46	19	0.4332	671.8746	670.2245	0.472	0.516
P-261	0.9951	2.848	8.004		0.0879	46	16	1.736	46	16	0.0884	672.3552	671.354	0.203	0.201
P-262	0.7876	2.254	8.004		0.0878	46	17	1.0777	46	17	0.1115	670.7903	670.2245	0.225	0.756
P-269	2.1639	6.1929	8.004		0.1766	46	15	3.6938	46	15	0.0816	681.8196	677.8132	0.194	0.195
P-270	2.1636	6.1921	8.004		0.1765	46	16	3.6788	46	17	0.0816	677.8132	673.8057	0.195	0.193
P-271	2.1638	6.1925	8.004		0.1763	46	17	2.6641	46	16	0.0815	673.8057	668.0378	0.193	0.641
P-263	2.5185	7.2078	8.004		0.1029	46	15	3.4991	46	16	0.0409	681.0523	674.3116	0.138	0.137
P-264	2.5251	7.2266	8.004		0.1028	46	16	2.0652	46	15	0.0407	674.3116	668.0378	0.137	0.641
P-272	3.2315	9.2483	8.004		0.0827	46	15	3.6082	46	15	0.0256	679.8632	667.9041	0.11	0.171
P-273	1.2929	3.7002	8.004		0.0825	46	16	2.0061	45	39	0.0638	667.9041	665.985	0.171	0.247
P-259	1.941	5.5551	8.004		0.1487	46	15	3.2511	46	16	0.0766	674.0458	669.5677	0.189	0.187
P-260	1.9413	5.5558	8.004		0.1486	46	16	3.1931	45	44	0.0765	669.5677	665.985	0.187	0.247
P-278	1.8801	5.3806	8.004		0.1403	46	15	3.1153	46	16	0.0746	681.4144	677.5426	0.186	0.184
P-277	2.4706	7.0705	8.004		0.1402	46	16	3.7843	46	16	0.0568	677.5278	670.7157	0.162	0.174
P-283	2.1307	6.0978	8.004		0.1401	46	17	2.2648	46	16	0.0658	670.7157	664.6143	0.174	0.681
P-284	2.9795	8.5271	8.004		0	0	0	0	0	0	0	670.7157	670.7157	0	0
P-257	1.9186	5.4908	8.004		0.099	46	15	2.8727	46	15	0.0516	681.4932	676.5436	0.155	0.155
P-258	1.9321	5.5295	8.004		0.0988	46	17	2.8555	46	17	0.0511	676.5436	671.522	0.155	0.153
P-308	3.0003	8.5867	8.004		0.1404	46	15	4.0081	46	15	0.0468	679.298	670.3752	0.147	0.233
P-311	1.201	3.4372	8.004		0.14	46	17	2.2699	46	17	0.1166	670.3752	668.5734	0.233	0.23
P-276	1.202	3.4401	8.004		0.1398	46	19	2.2497	46	19	0.1163	663.5262	661.5732	0.234	0.23
P-275	0.8076	2.3113	8.004		0.148	46	19	1.6483	46	19	0.1832	667.8376	666.9955	0.308	0.263
P-208	2.2051	6.3109	8.004		0.1319	46	16	3.4389	46	16	0.0598	678.7312	671.5303	0.167	0.165
P-207	2.6764	7.6596	8.004		0.1319	46	16	3.9299	46	17	0.0493	669.1214	662.6404	0.152	0.151
P-205	2.6816	7.6744	8.004		0.1318	46	17	16.5301	0	2	0.0492	662.6404	656.6941	0.151	0.936
P-204	0.9306	2.6633	8.004		0.1726	47	19	1.6008	42	40	0.1855	656.6941	656.6818	0.936	1.772
P-199	0.9548	2.7327	8.004		0.0316	46	21	1.1923	46	21	0.0331	657.7724	656.6845	0.108	0.347
P-202	0.9429	2.6985	8.004		0.0475	47	12	0.8266	42	33	0.0504	656.6845	656.6818	0.347	1.772
P-211	2.2668	6.4873	8.004		0.1238	46	15	3.2846	46	16	0.0546	672.7311	669.7277	0.167	0.146
P-209	2.6625	7.62	8.004		0.1237	46	16	3.6325	46	15	0.0465	669.7277	660.4901	0.146	0.21
P-210	1.3029	3.7288	8.004		0.1234	46	18	2.8969	0	2	0.0947	660.4901	658.5583	0.21	0.207
P-3077	21.7997	12.3361	18		9.0685	46	45	11.1008	46	45	0.416	675.6204	665.325	0.474	0.443
P-3073	26.1881	14.8194	18		9.0647	46	45	12.122	46	46	0.3461	665.325	652.1587	0.443	0.406
P-3067	15.7527	8.9142	18		9.0632	46	46	7.7485	45	38	0.5753	650.7616	646.6444	0.601	1.403
P-3069	5.5605	3.1466	18		9.3439	46	46	5.3054	46	46	1.6804	646.6444	645.5623	1.403	0.895
P-3070	11.0648	6.2614	18		9.3433	46	47	5.7208	46	48	0.8444	645.5623	643.9675	0.895	0.705
P-3088	3.55	10.1599	8.004		0.099	46	15	3.6219	46	15	0.0279	669.7564	651.6757	0.115	0.263
P-3092	1.4511	4.1529	8.004		0.2144	46	46	2.9192	46	47	0.1478	651.6757	649.9737	0.263	0.26
P-3093	1.443	4.1297	8.004		0.2143	46	47	2.3376	0	2	0.1485	649.9737	648.6704	0.26	0.825
P-17061	13.1123	10.6849	15		2.2854	46	38	4.9288	46	39	0.1743	648.6704	647.9131	0.416	0.282
P-2956	9.9182	5.6125	18		0	0	0	0	0	0	0	651.17	651.17	0	0
P-2957	14.0776	7.9663	18		0	0	0	0	0	0	0	651.17	647.6025	0	0
P-2958	8.7309	4.9407	18		2.0016	46	39	3.8673	46	40	0.2293	647.6025	645.9781	0.335	0.325
P-197	1.6806	3.0839	9.996		2.0754	46	33	3.9114	46	33	1.2349	650.3972	648.6704	1.614	0.661
P-274	0.8077	2.3116	8.004		0.1486	46	16	1.7381	46	16	0.1839	668.6145	667.8376	0.292	0.308
P-2917	1.6007	2.9584	9.96		0.0007	46	30	0.2849	46	30	0.0004	656.6818	655.3737	0.014	0.0045
P-198	3.6852	6.811	9.96		0.1159	46	45	3.0273	46	45	0.0315	657.7724	655.0808	0.123	0.121
P-1000	3.0205	5.5424	9.996		0.2837	46	39	3.4758	46	39	0.0939	647.6025	647.1521	0.207	0.207
FREE	#	1	Undefnd		Undefnd	Undefn	9.3433	46	47						
FREE	#	2	Undefnd		Undefnd	Undefn	2.0016	46	39						

Table 3
2-Year Recurrence Interval Event - Modeling Results - Existing Conditions
Pipe Summary - North Basin

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-1002	688.01	679.257	678.59	0	0	0	9.42	12.566	0	0	0
MH-1003	680.47	670.887	670.3908	46	16	0	10.0792	12.566	0	0	0
MH-1004	686.45	679.867	679.3076	46	15	0	7.1424	12.566	0	0	0
MH-16339	678.6	678.087	677.5381	46	16	0	1.0619	12.566	0	0	0
MH-16365	694.8	686.137	685.7242	46	20	0	9.0758	12.566	0	0	0
MH-16366	692.73	685.257	683.3101	46	19	0	9.4199	12.566	0	0	0
MH-16369	677.35	667.487	661.0102	46	18	0	16.3398	12.566	0	0	0
MH-1822	687.46	675.707	675.1827	46	17	0	12.2773	12.566	0	0	0
MH-1823	692.89	682.807	682.266	46	16	0	10.624	12.566	0	0	0
MH-1824	700.02	689.907	689.3674	46	15	0	10.6526	12.566	0	0	0
MH-1885	694.17	687.007	686.5855	46	18	0	7.5845	12.566	0	0	0
MH-1886	697.35	688.597	688.0825	46	16	0	9.2675	12.566	0	0	0
MH-1888	698.76	690.177	689.6639	46	15	0	9.0961	12.566	0	0	0
MH-1891	682.47	674.387	672.8454	46	17	0	9.6246	12.566	0	0	0
MH-1893	690.94	681.187	680.6551	46	17	0	10.2849	12.566	0	0	0
MH-1895	696.5	684.587	684.0925	46	15	0	12.4075	12.566	0	0	0
MH-3088	698.25	689.087	688.5402	46	18	0	9.7098	12.566	0	0	0
MH-3089	700.35	690.187	689.6913	46	16	0	10.6587	12.566	0	0	0
MH-3090	699.25	690.917	690.3808	46	15	0	8.8692	12.566	0	0	0
MH-320	660.66	644.41	644.1387	46	47	0	16.5213	12.566	0	0	0
MH-343	660.87	647.813	647.6885	46	47	0	13.1815	12.566	0	0	0
MH-354	660.62	649.886	651.0198	46	52	1.1338	9.6002	12.566	0	0	0
MH-355	666.12	652.105	653.0455	46	52	0.9405	13.0745	12.566	0	0	0
MH-356	670.73	659.087	655.3991	46	51	0	15.3309	12.566	0	0	0
MH-357	662.42	655.81	651.6934	46	16	0	10.7266	12.566	0	0	0
MH-358	666.59	658.5	657.7819	46	15	0	8.8081	12.566	0	0	0
MH-374	666.5	657.5	657.0444	46	51	0	9.4556	12.566	0	0	0
MH-375	664.75	657.12	657.0456	46	51	0	7.7044	12.566	0	0	0
MH-396	668.15	656.737	657.0635	46	51	0.3265	11.0865	12.566	0	0	0
MH-4199	692.91	676.41	675.6932	46	45	0	17.2168	12.566	0	0	0
MH-466	675.12	663.207	662.6502	46	17	0	12.4698	12.566	0	0	0
MH-467	681.52	672.087	669.1312	46	16	0	12.3888	12.566	0	0	0
MH-468	689.87	679.287	678.7422	46	15	0	11.1278	12.566	0	0	0
MH-470	672.35	661.017	660.5041	46	17	0	11.8459	12.566	0	0	0
MH-471	681.46	670.297	669.7372	46	15	0	11.7228	12.566	0	0	0
MH-472	682.45	673.287	672.7419	46	15	0	9.7081	12.566	0	0	0
MH-5152	670.49	658.649	658.4725	46	21	0	12.0175	12.566	0	0	0
MH-5174	665.92	655.353	656.2303	46	51	0.8773	9.6897	12.566	0	0	0
MH-5568	658.82	646.99	646.0278	46	47	0	12.7922	12.566	0	0	0
MH-5571	661.85	648.81	647.6553	46	47	0	14.1947	12.566	0	0	0
MH-5572	665.87	652.87	651.17	0	0	0	14.7	12.566	0	0	0
MH-5574	665.94	653.05	651.0438	46	46	0	14.8962	12.566	0	0	0
MH-5724	677.33	667.333	667.0122	46	26	0	10.3178	12.566	0	0	0
MH-6069	660.42	645.72	646.1355	46	47	0.4155	14.2845	12.566	0	0	0
MH-6075	681.16	666.16	665.3969	46	45	0	15.7631	12.566	0	0	0
MH-6090	662.05	649.4	648.7407	46	50	0	13.3093	12.566	0	0	0
MH-6092	682.68	670.347	669.7637	46	15	0	12.9163	12.566	0	0	0
MH-6168	663.92	650.467	649.9909	46	17	0	13.9291	12.566	0	0	0
MH-669	681.05	670.713	670.2675	46	20	0	10.7825	12.566	0	0	0
MH-670	689.72	671.887	670.8064	46	17	0	18.9136	12.566	0	0	0
MH-671	696.64	672.887	672.3698	46	16	0	24.2702	12.566	0	0	0
MH-672	678.61	668.443	668.096	46	20	0	10.514	12.566	0	0	0
MH-673	683.22	674.887	674.321	46	16	0	8.899	12.566	0	0	0
MH-674	690.96	681.627	681.062	46	15	0	9.898	12.566	0	0	0
MH-871	679.09	670.11	669.5799	46	16	0	9.5101	12.566	0	0	0
MH-877	685.75	674.587	674.0582	46	15	0	11.6918	12.566	0	0	0
MH-879	676.54	666.487	666.2387	46	55	0	10.3013	12.566	0	0	0
MH-884	681.49	672.087	664.6735	46	17	0	16.8165	12.566	0	0	0
MH-886	687.77	677.107	676.5537	46	17	0	11.2163	12.566	0	0	0
MH-887	688.81	682.057	681.5031	46	15	0	7.3069	12.566	0	0	0
MH-937	680.8	672.227	671.9161	46	18	0	8.8839	12.566	0	0	0
MH-938	682.09	674.177	673.7673	46	20	0	8.3227	12.566	0	0	0
MH-940	695.96	688.957	688.3398	46	15	0	7.6202	12.566	0	0	0
MH-943	682.72	674.344	673.8192	46	16	0	8.9008	12.566	0	0	0
MH-944	686.14	678.35	677.8269	46	15	0	8.3131	12.566	0	0	0
MH-946	691.27	682.357	681.8332	46	15	0	9.4368	12.566	0	0	0
MH-961	679.46	668.457	667.9151	46	16	0	11.5449	12.566	0	0	0
MH-962	689.04	680.457	679.8704	46	15	0	9.1696	12.566	0	0	0
MH-968	681.12	668.299	667.859	46	18	0	13.261	12.566	0	0	0
MH-969	680.17	669.087	668.6347	46	15	0	11.5353	12.566	0	0	0
MH-976	678.37	669.087	663.542	46	18	0	14.828	12.566	0	0	0
MH-983	680.15	663.183	662.9028	46	17	0	17.2472	12.566	0	0	0
MH-986	678.74	665.633	665.6409	46	55	0.0079	13.0991	12.566	0	0	0
MH-991	681.04	671.747	670.727	46	17	0	10.313	12.566	0	0	0
MH-993	688.87	681.957	681.4265	46	15	0	7.4435	12.566	0	0	0

Table 3
2-Year Recurrence Interval Event - Modeling Results - Existing Conditions
Pipe Summary - North Basin

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Proposed Pipe Diameter (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends Upstream (ft)	Maximum Water Elevation at Pipe Ends Downstream (ft)	Ratio d/D US	Ratio d/D DS
P-485	2.4042	6.8805	8.004		0.1887	46	15	4.0532	46	16	0.0785	689.3674	682.266	0.191	0.189
P-486	2.4128	6.9053	8.004		0.1886	46	16	4.2026	0	11	0.0782	682.266	675.1827	0.189	0.214
P-487	1.8758	5.3683	8.004		0.1884	46	17	2.6766	46	16	0.1004	675.1827	670.2675	0.214	0.581
P-671	2.2315	4.0946	9.996		0.9643	46	20	3.7591	46	20	0.4321	670.2675	668.096	0.465	0.583
P-2983	2.1464	3.9385	9.996		1.3029	46	20	3.9269	46	19	0.607	668.096	667.0122	0.583	0.615
P-2985	2.1504	3.9458	9.996		1.3009	46	20	3.5942	45	48	0.605	667.0122	666.2387	0.615	1.043
P-2981	1.5777	2.8951	9.996		1.5618	47	8	2.9953	45	21	0.9899	666.2387	665.6409	1.043	1.009
P-2979	1.5769	2.8935	9.996		1.5528	46	15	2.9908	46	15	0.9847	665.6409	664.6735	1.009	0.616
P-521	2.7888	5.1173	9.996		1.8405	46	17	5.1767	46	17	0.66	664.6735	662.9028	0.616	0.664
P-522	2.789	5.1177	9.996		1.8406	46	18	4.8595	46	18	0.6599	662.9028	661.0102	0.664	0.589
P-2909	3.4798	6.3852	9.996		2.188	46	18	8.2215	0	2	0.6288	661.0102	658.4725	0.589	0.788
P-2910	3.4798	6.3851	9.996		2.1863	46	19	9.2551	0	2	0.6283	658.4725	657.0444	0.788	2.25
P-2915	1.6161	2.9655	9.996	12	2.042	45	36	4.8441	0	2	1.2635	657.0444	656.2303	2.25	2.053
P-2916	1.6166	2.9664	9.996	12	2.0406	45	36	3.8089	45	31	1.2623	656.2303	655.3991	2.053	1.836
P-195	2.7139	4.9798	9.996	12	2.5067	46	51	5.245	45	20	0.9236	655.3991	653.0455	1.836	2.129
P-196	2.7144	4.9807	9.996	12	2.5066	46	51	4.8001	42	56	0.9234	653.0455	651.0198	2.129	2.361
P-506	1.43	4.0926	8.004		0.1797	46	15	2.5825	46	16	0.1257	684.0925	680.6551	0.259	0.203
P-507	2.0242	5.793	8.004		0.1793	46	17	3.5437	46	17	0.0886	680.6551	673.8541	0.203	0.201
P-501	1.3361	3.8238	8.004		0.1527	46	15	2.5055	46	16	0.1143	689.6639	688.0825	0.231	0.229
P-502	1.3293	3.8045	8.004		0.1525	46	16	2.3145	46	16	0.1147	688.0825	686.5855	0.229	0.368
P-503	0.9141	2.6162	8.004		0.2595	46	18	2.212	46	19	0.2839	686.5855	685.7242	0.368	0.381
P-504	0.9016	2.5802	8.004		0.2591	46	21	2.1389	46	21	0.2874	685.7242	684.8247	0.381	0.352
P-899	1.2808	3.6656	8.004		0.1078	46	15	2.1286	46	15	0.0842	690.3808	689.6913	0.196	0.257
P-901	0.9056	2.5917	8.004		0.1076	46	16	1.5771	46	17	0.1188	689.6913	688.5402	0.257	0.18
P-904	1.5122	4.3279	8.004		0.1075	46	18	3.1206	0	4	0.0711	688.5402	686.5855	0.18	0.368
P-265	3.167	9.0637	8.004		0.036	46	15	2.0953	46	15	0.0114	688.3398	683.3101	0.075	0.24
P-266	3.1056	8.8879	8.004		0.3924	46	19	5.5679	46	19	0.1264	683.3101	673.7673	0.24	0.386
P-505	1.2636	3.6163	8.004		0.3924	46	20	2.995	46	21	0.3105	673.7673	672.8454	0.386	0.536
P-267	1.2628	3.6141	8.004		0.6697	46	18	3.5142	46	19	0.5303	672.8454	671.9161	0.536	0.534
P-268	1.2635	3.6161	8.004		0.6696	46	19	3.4906	46	19	0.53	671.9161	670.2675	0.534	0.581
P-261	0.9951	2.848	8.004		0.1076	46	16	1.8351	46	16	0.1081	672.3698	671.3676	0.225	0.221
P-262	0.7876	2.254	8.004		0.1075	46	17	1.1682	46	17	0.1364	670.8064	670.2675	0.249	0.821
P-269	2.1639	6.1929	8.004		0.2159	46	15	3.9123	46	15	0.0998	681.8332	677.8269	0.215	0.216
P-270	2.1636	6.1921	8.004		0.2158	46	16	3.8948	46	16	0.0997	677.8269	673.8192	0.216	0.213
P-271	2.1638	6.1925	8.004		0.2157	46	16	2.8266	46	16	0.0997	673.8192	668.096	0.213	0.729
P-263	2.5185	7.2078	8.004		0.1258	46	15	3.7175	46	16	0.05	681.062	674.321	0.153	0.151
P-264	2.5251	7.2266	8.004		0.1257	46	16	2.1941	46	15	0.0498	674.321	668.096	0.151	0.729
P-272	3.2315	9.2483	8.004		0.0998	46	15	3.8265	46	15	0.0309	679.8704	667.9151	0.121	0.188
P-273	1.2929	3.7002	8.004		0.0995	46	16	2.0014	44	39	0.077	667.9151	666.2387	0.188	0.628
P-259	1.941	5.5551	8.004		0.1795	46	15	3.4343	46	16	0.0925	674.0582	669.5799	0.207	0.205
P-260	1.9413	5.5558	8.004		0.1793	46	16	3.2224	44	42	0.0924	669.5799	666.2387	0.205	0.628
P-278	1.8801	5.3806	8.004		0.1693	46	15	3.2981	46	16	0.0901	681.4265	677.5551	0.205	0.203
P-277	2.4706	7.0705	8.004		0.1693	46	16	3.9967	46	16	0.0685	677.5381	670.727	0.177	0.19
P-283	2.1307	6.0978	8.004		0.1691	46	17	2.3933	46	17	0.0794	670.727	664.6735	0.19	0.77
P-284	2.9795	8.5271	8.004		0	0	0	0	0	0	0	670.727	670.727	0	0
P-257	1.9186	5.4908	8.004		0.1195	46	15	3.0357	46	15	0.0623	681.5031	676.5537	0.17	0.17
P-258	1.9321	5.5295	8.004		0.1192	46	17	3.0154	46	17	0.0617	676.5537	671.5319	0.17	0.168
P-308	3.0003	8.5867	8.004		0.1695	46	15	4.2436	46	15	0.0565	679.3076	670.3908	0.161	0.256
P-311	1.201	3.4372	8.004		0.169	46	17	2.3938	46	17	0.1407	670.3908	668.5886	0.256	0.253
P-276	1.202	3.4401	8.004		0.1688	46	18	2.3698	46	19	0.1404	663.542	661.5885	0.258	0.253
P-275	0.8076	2.3113	8.004		0.1786	46	18	1.7358	46	19	0.2212	667.859	667.0135	0.34	0.29
P-208	2.2051	6.3109	8.004		0.1592	46	15	3.6272	46	16	0.0722	678.7422	671.5406	0.183	0.181
P-207	2.6764	7.6596	8.004		0.1592	46	16	4.1544	46	17	0.0595	669.1312	662.6502	0.167	0.165
P-205	2.6816	7.6744	8.004		0.1592	46	17	16.5301	0	2	0.0594	662.6502	657.0635	0.165	1.49
P-204	0.9306	2.6633	8.004		0.1842	47	39	1.6585	42	37	0.198	657.0635	657.0444	1.49	2.315
P-199	0.9548	2.7327	8.004		0.0307	46	15	1.155	44	48	0.0321	657.7819	657.0456	0.123	0.888
P-202	0.9429	2.6985	8.004		0.0811	47	34	0.8762	42	30	0.086	657.0456	657.0444	0.888	2.315
P-211	2.2668	6.4873	8.004		0.1494	46	15	3.4676	46	15	0.0659	672.7419	669.7372	0.183	0.161
P-209	2.6625	7.62	8.004		0.1493	46	16	3.847	46	15	0.0561	669.7372	660.5041	0.161	0.231
P-210	1.3029	3.7288	8.004		0.149	46	17	2.8969	0	2	0.1143	660.5041	658.5718	0.231	0.228
P-3077	21.7997	12.3361	18		10.7078	46	45	11.5642	46	45	0.4912	675.6932	665.3969	0.522	0.491
P-3073	26.1881	14.8194	18		10.7034	46	45	12.5408	46	46	0.4087	665.3969	652.2178	0.491	0.445
P-3067	15.7527	8.9142	18		10.6927	46	46	7.7475	44	38	0.6788	651.0438	647.6885	0.789	2.099
P-3069	5.5605	3.1466	18		11.0463	46	47	6.2107	46	47	1.9866	647.6885	646.1355	2.099	1.277
P-3070	11.0648	6.2614	18		11.0465	46	47	6.3192	46	47	0.9983	646.1355	644.1387	1.277	0.819
P-3088	3.55	10.1599	8.004		0.1196	46	15	3.8174	46	15	0.0337	669.7637	651.6934	0.125	0.29
P-3092	1.4511	4.1529	8.004		0.258	46	16	3.0721	46	17	0.1778	651.6934	649.9909	0.29	0.286
P-3093	1.443	4.1297	8.004		0.2579	46	17	2.3857	46	17	0.1787	649.9909	648.7407	0.286	0.931
P-17061	13.1123	10.6849	15		2.7613	46	50	5.0555	46	50	0.2106	648.7407	647.949	0.473	0.311
P-2956	9.9182	5.6125	18		0	0	0	0	0	0	0	651.17	651.17	0	0
P-2957	14.0776	7.9663	18		0	0	0	0	0	0	0	651.17	647.6553	0	0
P-2958	8.7309	4.9407	18		2.404	46	47	4.0576	46	48	0.2753	647.6553	646.0278	0.37	0.359
P-197	1.6806	3.0839	9.996	12	2.5066	46	52	4.6568	46	52	1.4914	651.0198	648.7407	2.361	0.745
P-274	0.8077	2.3116	8.004		0.1793	46	15	1.8307	46	16	0.222	668.6347	667.859	0.322	0.34
P-2917	1.6007	2.9584	9.96		0.6263	46	51	2.6689	46	52	0.3912	657.0444	655.7178	0.451	0.419
P-198	3.6852	6.811	9.96		0.1386	46	15	3.1728	46	15	0.0376	657.7819	655.089	0.135	0.131
P-1000	3.0205	5.5424	9.996		0.4324	47	6	3.9304	47	6	0.1431	647.6553	647.6885	0.27	0.851
FREE	#	1	Undefnd		Undefnd	Undefn	11.0465	46	47						
FREE	#	2	Undefnd		Undefnd	Undefn	2.404	46	47						

Table 4
5-Year Recurrence Interval Event - Modeling Results -Existing Conditions
Pipe Summary - North Basin

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-1002	688.01	679.257	678.59	0	0	0	9.42	12.566	0	0	0
MH-1003	680.47	670.887	670.4064	46	16	0	10.0636	12.566	0	0	0
MH-1004	686.45	679.867	679.3168	46	15	0	7.1332	12.566	0	0	0
MH-16339	678.6	678.087	677.5485	46	16	0	1.0515	12.566	0	0	0
MH-16365	694.8	686.137	685.7514	46	20	0	9.0486	12.566	0	0	0
MH-16366	692.73	685.257	683.3253	46	19	0	9.4047	12.566	0	0	0
MH-16369	677.35	667.487	661.4154	46	28	0	15.9346	12.566	0	0	0
MH-1822	687.46	675.707	675.1961	46	17	0	12.2639	12.566	0	0	0
MH-1823	692.89	682.807	682.2778	46	16	0	10.6122	12.566	0	0	0
MH-1824	700.02	689.907	689.3794	46	15	0	10.6406	12.566	0	0	0
MH-1885	694.17	687.007	686.6112	46	18	0	7.5588	12.566	0	0	0
MH-1886	697.35	688.597	688.097	46	16	0	9.253	12.566	0	0	0
MH-1888	698.76	690.177	689.6787	46	15	0	9.0813	12.566	0	0	0
MH-1891	682.47	674.387	672.8892	46	17	0	9.5808	12.566	0	0	0
MH-1893	690.94	681.187	680.668	46	17	0	10.272	12.566	0	0	0
MH-1895	696.5	684.587	684.109	46	15	0	12.391	12.566	0	0	0
MH-3088	698.25	689.087	688.5515	46	18	0	9.6985	12.566	0	0	0
MH-3089	700.35	690.187	689.7078	46	16	0	10.6422	12.566	0	0	0
MH-3090	699.25	690.917	690.3929	46	15	0	8.8571	12.566	0	0	0
MH-320	660.66	644.41	644.1902	46	46	0	16.4698	12.566	0	0	0
MH-343	660.87	647.813	647.9432	46	46	0.1302	12.9268	12.566	0	0	0
MH-354	660.62	649.886	651.5956	46	29	1.7096	9.0244	12.566	0	0	0
MH-355	666.12	652.105	654.1236	46	29	2.0186	11.9964	12.566	0	0	0
MH-356	670.73	659.087	657.0361	46	28	0	13.6939	12.566	0	0	0
MH-357	662.42	655.81	651.7711	46	28	0	10.6489	12.566	0	0	0
MH-358	666.59	658.5	657.8463	46	28	0	8.7437	12.566	0	0	0
MH-374	666.5	657.5	657.9748	46	28	0.4748	8.5252	12.566	0	0	0
MH-375	664.75	657.12	657.9486	46	28	0.8286	6.8014	12.566	0	0	0
MH-396	668.15	656.737	658.0006	46	28	1.2636	10.1494	12.566	0	0	0
MH-4199	692.91	676.41	675.7707	46	45	0	17.1393	12.566	0	0	0
MH-466	675.12	663.207	662.6571	45	43	0	12.4629	12.566	0	0	0
MH-467	681.52	672.087	669.1581	46	15	0	12.3619	12.566	0	0	0
MH-468	689.87	679.287	678.7528	46	15	0	11.1172	12.566	0	0	0
MH-470	672.35	661.017	660.518	46	17	0	11.832	12.566	0	0	0
MH-471	681.46	670.297	669.7464	46	15	0	11.7136	12.566	0	0	0
MH-472	682.45	673.287	672.753	46	15	0	9.697	12.566	0	0	0
MH-5152	670.49	658.649	659.7837	46	28	1.1347	10.7063	12.566	0	0	0
MH-5174	665.92	655.353	657.5091	46	28	2.1561	8.4109	12.566	0	0	0
MH-5568	658.82	646.99	646.2372	46	47	0	12.5828	12.566	0	0	0
MH-5571	661.85	648.81	647.8821	46	47	0	13.9679	12.566	0	0	0
MH-5572	665.87	652.87	651.3366	46	46	0	14.5334	12.566	0	0	0
MH-5574	665.94	653.05	651.7847	46	45	0	14.1553	12.566	0	0	0
MH-5724	677.33	667.333	667.5186	46	25	0.1856	9.8114	12.566	0	0	0
MH-6069	660.42	645.72	646.2857	46	46	0.5657	14.1343	12.566	0	0	0
MH-6075	681.16	666.16	665.4735	46	45	0	15.6865	12.566	0	0	0
MH-6090	662.05	649.4	648.8171	46	30	0	13.2329	12.566	0	0	0
MH-6092	682.68	670.347	669.7707	46	15	0	12.9093	12.566	0	0	0
MH-6168	663.92	650.467	650.0655	46	29	0	13.8545	12.566	0	0	0
MH-669	681.05	670.713	670.3109	46	19	0	10.7391	12.566	0	0	0
MH-670	689.72	671.887	670.8223	46	17	0	18.8977	12.566	0	0	0
MH-671	696.64	672.887	672.3839	46	15	0	24.2561	12.566	0	0	0
MH-672	678.61	668.443	668.2178	46	25	0	10.3922	12.566	0	0	0
MH-673	683.22	674.887	674.3304	46	16	0	8.8896	12.566	0	0	0
MH-674	690.96	681.627	681.0714	46	15	0	9.8886	12.566	0	0	0
MH-871	679.09	670.11	669.592	46	16	0	9.498	12.566	0	0	0
MH-877	685.75	674.587	674.0704	46	15	0	11.6796	12.566	0	0	0
MH-879	676.54	666.487	666.8249	46	25	0.3379	9.7151	12.566	0	0	0
MH-884	681.49	672.087	664.748	46	24	0	16.742	12.566	0	0	0
MH-886	687.77	677.107	676.5638	46	17	0	11.2062	12.566	0	0	0
MH-887	688.81	682.057	681.513	46	15	0	7.297	12.566	0	0	0
MH-937	680.8	672.227	671.9608	46	18	0	8.8392	12.566	0	0	0
MH-938	682.09	674.177	673.7962	46	19	0	8.2938	12.566	0	0	0
MH-940	695.96	688.957	688.3444	46	15	0	7.6156	12.566	0	0	0
MH-943	682.72	674.344	673.8325	46	16	0	8.8875	12.566	0	0	0
MH-944	686.14	678.35	677.8407	46	15	0	8.2993	12.566	0	0	0
MH-946	691.27	682.357	681.8469	46	15	0	9.4231	12.566	0	0	0
MH-961	679.46	668.457	667.9262	46	16	0	11.5338	12.566	0	0	0
MH-962	689.04	680.457	679.877	46	15	0	9.163	12.566	0	0	0
MH-968	681.12	668.299	667.8808	46	18	0	13.2392	12.566	0	0	0
MH-969	680.17	669.087	668.6551	46	15	0	11.5149	12.566	0	0	0
MH-976	678.37	669.087	663.5579	46	18	0	14.8121	12.566	0	0	0
MH-983	680.15	663.183	662.9922	46	27	0	17.1578	12.566	0	0	0
MH-986	678.74	665.633	665.9374	46	26	0.3044	12.8026	12.566	0	0	0
MH-991	681.04	671.747	670.7382	46	17	0	10.3018	12.566	0	0	0
MH-993	688.87	681.957	681.4387	46	15	0	7.4313	12.566	0	0	0

Table 4
5-Year Recurrence Interval Event - Modeling Results -Existing Conditions
Pipe Summary - North Basin

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Proposed Pipe Diameter (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends: Upstream (ft)	Maximum Water Elevation at Pipe Ends: Downstream (ft)	Ratio d/D: US	Ratio d/D: DS
P-485	2.4042	6.8805	8.004		0.226	46	15	4.2706	46	16	0.094	689.3794	682.2778	0.209	0.207
P-486	2.4128	6.9053	8.004		0.2258	46	16	4.2466	46	16	0.0936	682.2778	675.1961	0.207	0.234
P-487	1.8758	5.3683	8.004		0.2256	46	17	2.8235	46	16	0.1203	675.1961	670.3109	0.234	0.646
P-671	2.2315	4.0946	9.996		1.1552	46	20	3.8814	45	53	0.5177	670.3109	668.2178	0.517	0.73
P-2983	2.1464	3.9385	9.996		1.5487	46	22	3.9655	45	21	0.7215	668.2178	667.5186	0.73	1.223
P-2985	2.1504	3.9458	9.996	12	1.5478	46	26	3.6038	44	47	0.7198	667.5186	666.8249	1.223	1.747
P-2981	1.5777	2.8951	9.996	12	1.872	46	25	3.4195	46	25	1.1865	666.8249	665.9374	1.747	1.365
P-2979	1.5769	2.8935	9.996	12	1.8719	46	26	3.5138	46	26	1.1871	665.9374	664.748	1.365	0.706
P-521	2.7888	5.1173	9.996	12	2.2091	46	24	5.3389	46	17	0.7921	664.748	662.9922	0.706	0.771
P-522	2.789	5.1177	9.996	12	2.2077	46	26	5.0781	45	50	0.7916	662.9922	661.4154	0.771	1.075
P-2909	3.4798	6.3852	9.996	12	2.6123	46	27	8.2215	0	2	0.7507	661.4154	659.7837	1.075	2.362
P-2910	3.4798	6.3851	9.996	12	2.6121	46	28	9.2551	0	2	0.7507	659.7837	657.9748	2.362	3.367
P-2915	1.6161	2.9655	9.996	12	2.0427	44	47	4.8441	0	2	1.264	657.9748	657.5091	3.367	3.588
P-2916	1.6166	2.9664	9.996	12	2.0392	44	46	3.8055	43	22	1.2614	657.5091	657.0361	3.588	3.801
P-195	2.7139	4.9798	9.996	12	2.8193	46	27	5.2464	43	10	1.0389	657.0361	654.1236	3.801	3.423
P-196	2.7144	4.9807	9.996	12	2.8192	46	28	5.0957	46	28	1.0386	654.1236	651.5956	3.423	3.052
P-506	1.43	4.0926	8.004		0.2152	46	15	2.7212	46	16	0.1505	684.109	680.668	0.283	0.222
P-507	2.0242	5.793	8.004		0.2148	46	17	3.7234	46	17	0.1061	680.668	673.8662	0.222	0.219
P-501	1.3361	3.8238	8.004		0.1829	46	15	2.6355	46	16	0.1369	689.6787	688.097	0.253	0.25
P-502	1.3293	3.8045	8.004		0.1827	46	16	2.4366	46	16	0.1374	688.097	686.6112	0.25	0.407
P-503	0.9141	2.6162	8.004		0.3108	46	18	2.3184	46	18	0.34	686.6112	685.7514	0.407	0.422
P-504	0.9016	2.5802	8.004		0.3103	46	20	2.2398	46	21	0.3442	685.7514	684.8477	0.422	0.386
P-899	1.2808	3.6656	8.004		0.1291	46	15	2.2428	46	15	0.1008	690.3929	689.7078	0.214	0.282
P-901	0.9056	2.5917	8.004		0.1288	46	16	1.6624	46	17	0.1423	689.7078	688.5515	0.282	0.197
P-904	1.5122	4.3279	8.004		0.1287	46	18	3.1206	0	4	0.0851	688.5515	686.6112	0.197	0.407
P-265	3.167	9.0637	8.004		0.0431	46	15	2.2138	46	15	0.0136	688.3444	683.3253	0.082	0.263
P-266	3.1056	8.8879	8.004		0.47	46	19	5.8474	46	18	0.1513	683.3253	673.7962	0.263	0.429
P-505	1.2636	3.6163	8.004		0.4699	46	20	3.1152	46	21	0.3719	673.7962	672.8892	0.429	0.602
P-267	1.2628	3.6141	8.004		0.802	46	18	3.654	46	19	0.6351	672.8892	671.9608	0.602	0.601
P-268	1.2635	3.6161	8.004		0.8019	46	19	3.6249	46	19	0.6346	671.9608	670.3109	0.601	0.646
P-261	0.9951	2.848	8.004		0.1289	46	16	1.9345	46	16	0.1295	672.3839	671.382	0.246	0.243
P-262	0.7876	2.254	8.004		0.1287	46	17	1.2561	46	17	0.1634	670.8223	670.3109	0.273	0.886
P-269	2.1639	6.1929	8.004		0.2585	46	15	4.1207	46	15	0.1195	681.8469	677.8407	0.235	0.236
P-270	2.1636	6.1921	8.004		0.2584	46	16	4.1005	46	16	0.1194	677.8407	673.8325	0.236	0.233
P-271	2.1638	6.1925	8.004		0.2582	46	16	2.9613	45	46	0.1193	673.8325	668.2178	0.233	0.911
P-263	2.5185	7.2078	8.004		0.1507	46	15	3.9204	46	16	0.0598	681.0714	674.3304	0.167	0.165
P-264	2.5251	7.2266	8.004		0.1505	46	16	2.3037	45	45	0.0596	674.3304	668.2178	0.165	0.911
P-272	3.2315	9.2483	8.004		0.1183	46	15	4.02	46	15	0.0366	679.877	667.9262	0.131	0.204
P-273	1.2929	3.7002	8.004		0.118	46	16	2.0348	42	47	0.0913	667.9262	666.8249	0.204	1.507
P-259	1.941	5.5551	8.004		0.2128	46	15	3.6044	46	16	0.1096	674.0704	669.592	0.226	0.223
P-260	1.9413	5.5558	8.004		0.2126	46	16	3.2304	42	50	0.1095	669.592	666.8249	0.223	1.507
P-278	1.8801	5.3806	8.004		0.2007	46	15	3.4565	46	15	0.1068	681.4387	677.5666	0.223	0.22
P-277	2.4706	7.0705	8.004		0.2007	46	16	4.2053	46	16	0.0812	677.5485	670.7382	0.193	0.207
P-283	2.1307	6.0978	8.004		0.2005	46	17	2.5175	46	16	0.0941	670.7382	664.748	0.207	0.882
P-284	2.9795	8.5271	8.004		0	0	0	0	0	0	0	670.7382	670.7382	0	0
P-257	1.9186	5.4908	8.004		0.1417	46	15	3.19	46	15	0.0739	681.513	676.5638	0.184	0.186
P-258	1.9321	5.5295	8.004		0.1414	46	17	3.164	46	17	0.0732	676.5638	671.5414	0.186	0.182
P-308	3.0003	8.5867	8.004		0.2009	46	15	4.4569	46	15	0.067	679.3168	670.4064	0.175	0.279
P-311	1.201	3.4372	8.004		0.2004	46	16	2.5137	46	17	0.1669	670.4064	668.6042	0.279	0.276
P-276	1.202	3.4401	8.004		0.2002	46	18	2.4858	46	18	0.1665	663.5579	661.604	0.282	0.276
P-275	0.8076	2.3113	8.004		0.2118	46	18	1.8178	46	18	0.2623	667.8808	667.0316	0.373	0.317
P-208	2.2051	6.3109	8.004		0.1888	46	15	3.8241	46	16	0.0856	678.7528	671.5518	0.199	0.198
P-207	2.6764	7.6596	8.004		0.1926	45	45	4.3047	45	43	0.072	669.1581	662.6571	0.207	0.175
P-205	2.6816	7.6744	8.004		0.2812	45	44	16.5301	0	2	0.1049	662.6571	658.0006	0.176	2.894
P-204	0.9306	2.6633	8.004		0.2791	45	46	1.7118	42	34	0.2999	658.0006	657.9748	2.894	3.71
P-199	0.9548	2.7327	8.004		-0.1498	46	29	1.1695	43	0	-0.1569	657.8766	657.9486	0.265	2.242
P-202	0.9429	2.6985	8.004		-0.1498	46	28	0.8971	42	29	-0.1589	657.9486	657.9748	2.242	3.71
P-211	2.2668	6.4873	8.004		0.1772	46	15	3.6434	46	15	0.0782	672.753	669.7464	0.199	0.174
P-209	2.6625	7.62	8.004		0.1771	46	15	4.0401	46	15	0.0665	669.7464	660.518	0.174	0.252
P-210	1.3029	3.7288	8.004		0.1766	46	17	2.8969	0	2	0.1356	660.518	658.5856	0.252	0.248
P-3077	21.7997	12.3361	18		12.4814	46	45	11.9862	46	45	0.5725	675.7707	665.4735	0.574	0.542
P-3073	26.1881	14.8194	18		12.4762	46	45	12.9151	46	46	0.4764	665.4735	652.2791	0.542	0.486
P-3067	15.7527	8.9142	18		12.1557	46	8	7.7759	42	43	0.7717	651.7847	647.9432	1.283	2.269
P-3069	5.5605	3.1466	18		11.4212	46	46	6.4149	46	46	2.054	647.9432	646.2857	2.269	1.377
P-3070	11.0648	6.2614	18		11.4212	46	46	6.5085	46	46	1.0322	646.2857	644.1902	1.377	0.853
P-3088	3.55	10.1599	8.004		0.1417	46	15	3.9776	45	45	0.0399	669.7707	651.7711	0.136	0.406
P-3092	1.4511	4.1529	8.004		0.482	46	29	3.6252	46	30	0.3321	651.7711	650.0655	0.406	0.398
P-3093	1.443	4.1297	8.004		0.4818	46	30	3.1614	46	30	0.3339	650.0655	648.8171	0.398	1.045
P-17061	13.1123	10.6849	15		3.301	46	30	5.1851	46	30	0.2517	648.8171	647.987	0.534	0.342
P-2956	9.9182	5.6125	18		0.3741	46	46	2.1628	46	46	0.0377	651.7847	651.5671	0.156	0.131
P-2957	14.0776	7.9663	18		0.3684	46	46	1.9349	46	46	0.0262	651.3366	647.8821	0.111	0.521
P-2958	8.7309	4.9407	18		4.3379	46	47	4.6838	46	48	0.4968	647.8821	646.2372	0.521	0.498
P-197	1.6806	3.0839	9.996	12	2.8192	46	29	5.1673	46	29	1.6775	651.5956	648.8171	3.052	0.837
P-274	0.8077	2.3116	8.004		0.2126	46	15	1.9164	46	16	0.2632	668.6551	667.8808	0.352	0.373
P-2917	1.6007	2.9584	9.96		1.3277	45	49	3.0276	45	32	0.8295	657.9748	657.0361	1.572	2.007
P-198	3.6852	6.811	9.96		0.3444	46	28	4.1148	46	28	0.0935	657.8463	655.1511	0.212	0.206
P-1000	3.0205	5.5424	9.996		-0.7569	46	8	4.1679	47	22	-0.2506	647.8821	647.9432	0.543	1.156
FREE	#	1	Undefnd		Undefnd	Undefn	11.4212	46	46						
FREE	#	2	Undefnd		Undefnd	Undefn	4.3378	46	47						

Table 5
10-Year Recurrence Interval Event - Modeling Results - Existing Conditions
Pipe Summary - North Basin

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-1002	688.01	679.257	678.59	0	0	0	9.42	12.566	0	0	0
MH-1003	680.47	670.887	670.4172	46	16	0	10.0528	12.566	0	0	0
MH-1004	686.45	679.867	679.3232	46	15	0	7.1268	12.566	0	0	0
MH-16339	678.6	678.087	677.5568	46	17	0	1.0432	12.566	0	0	0
MH-16365	694.8	686.137	685.7705	46	20	0	9.0295	12.566	0	0	0
MH-16366	692.73	685.257	683.3358	46	19	0	9.3942	12.566	0	0	0
MH-16369	677.35	667.487	662.6474	46	53	0	14.7026	12.566	0	0	0
MH-1822	687.46	675.707	675.2053	46	17	0	12.2547	12.566	0	0	0
MH-1823	692.89	682.807	682.2858	46	16	0	10.6042	12.566	0	0	0
MH-1824	700.02	689.907	689.3875	46	15	0	10.6325	12.566	0	0	0
MH-1885	694.17	687.007	686.6292	46	18	0	7.5408	12.566	0	0	0
MH-1886	697.35	688.597	688.1069	46	16	0	9.2431	12.566	0	0	0
MH-1888	698.76	690.177	689.6889	46	15	0	9.0711	12.566	0	0	0
MH-1891	682.47	674.387	672.9228	46	17	0	9.5472	12.566	0	0	0
MH-1893	690.94	681.187	680.6767	46	17	0	10.2633	12.566	0	0	0
MH-1895	696.5	684.587	684.1204	46	15	0	12.3796	12.566	0	0	0
MH-3088	698.25	689.087	688.5591	46	17	0	9.6909	12.566	0	0	0
MH-3089	700.35	690.187	689.719	46	16	0	10.631	12.566	0	0	0
MH-3090	699.25	690.917	690.4013	46	15	0	8.8487	12.566	0	0	0
MH-320	660.66	644.41	644.2072	46	46	0	16.4528	12.566	0	0	0
MH-343	660.87	647.813	648.0873	46	46	0.2743	12.7827	12.566	0	0	0
MH-354	660.62	649.886	651.7655	46	56	1.8795	8.8545	12.566	0	0	0
MH-355	666.12	652.105	654.4341	46	53	2.3291	11.6859	12.566	0	0	0
MH-356	670.73	659.087	657.5023	46	52	0	13.2277	12.566	0	0	0
MH-357	662.42	655.81	651.8445	46	49	0	10.5755	12.566	0	0	0
MH-358	666.59	658.5	657.9023	46	50	0	8.6877	12.566	0	0	0
MH-374	666.5	657.5	658.4788	46	52	0.9788	8.0212	12.566	0	0	0
MH-375	664.75	657.12	658.3234	46	52	1.2034	6.4266	12.566	0	0	0
MH-396	668.15	656.737	658.5107	46	52	1.7737	9.6393	12.566	0	0	0
MH-4199	692.91	676.41	675.8288	46	15	0	17.0812	12.566	0	0	0
MH-466	675.12	663.207	662.6566	44	47	0	12.4634	12.566	0	0	0
MH-467	681.52	672.087	669.1632	46	15	0	12.3568	12.566	0	0	0
MH-468	689.87	679.287	678.7602	46	15	0	11.1098	12.566	0	0	0
MH-470	672.35	661.017	660.5277	46	17	0	11.8223	12.566	0	0	0
MH-471	681.46	670.297	669.7527	46	15	0	11.7073	12.566	0	0	0
MH-472	682.45	673.287	672.7603	46	15	0	9.6897	12.566	0	0	0
MH-5152	670.49	658.649	660.6383	46	53	1.9893	9.8517	12.566	0	0	0
MH-5174	665.92	655.353	657.9944	46	52	2.6414	7.9256	12.566	0	0	0
MH-5568	658.82	646.99	646.3803	46	47	0	12.4397	12.566	0	0	0
MH-5571	661.85	648.81	648.0406	46	46	0	13.8094	12.566	0	0	0
MH-5572	665.87	652.87	651.4967	46	16	0	14.3733	12.566	0	0	0
MH-5574	665.94	653.05	652.0614	46	15	0	13.8786	12.566	0	0	0
MH-5724	677.33	667.333	668.9542	46	56	1.6212	8.3758	12.566	0	0	0
MH-6069	660.42	645.72	646.3692	46	46	0.6492	14.0508	12.566	0	0	0
MH-6075	681.16	666.16	665.5306	46	15	0	15.6294	12.566	0	0	0
MH-6090	662.05	649.4	648.8626	47	59	0	13.1874	12.566	0	0	0
MH-6092	682.68	670.347	669.7756	46	15	0	12.9044	12.566	0	0	0
MH-6168	663.92	650.467	650.1555	46	51	0	13.7645	12.566	0	0	0
MH-669	681.05	670.713	670.5411	46	55	0	10.5089	12.566	0	0	0
MH-670	689.72	671.887	670.8419	46	54	0	18.8781	12.566	0	0	0
MH-671	696.64	672.887	672.3939	46	15	0	24.2461	12.566	0	0	0
MH-672	678.61	668.443	669.7086	46	55	1.2656	8.9014	12.566	0	0	0
MH-673	683.22	674.887	674.3353	46	5	0	8.8847	12.566	0	0	0
MH-674	690.96	681.627	681.0959	46	15	0	9.8641	12.566	0	0	0
MH-871	679.09	670.11	669.6002	46	48	0	9.4898	12.566	0	0	0
MH-877	685.75	674.587	674.0789	46	15	0	11.6711	12.566	0	0	0
MH-879	676.54	666.487	668.1213	46	56	1.6343	8.4187	12.566	0	0	0
MH-884	681.49	672.087	665.7971	46	54	0	15.6929	12.566	0	0	0
MH-886	687.77	677.107	676.5706	46	16	0	11.1994	12.566	0	0	0
MH-887	688.81	682.057	681.5198	46	15	0	7.2902	12.566	0	0	0
MH-937	680.8	672.227	671.9915	46	18	0	8.8085	12.566	0	0	0
MH-938	682.09	674.177	673.8169	46	19	0	8.2731	12.566	0	0	0
MH-940	695.96	688.957	688.3473	46	15	0	7.6127	12.566	0	0	0
MH-943	682.72	674.344	673.8397	45	47	0	8.8803	12.566	0	0	0
MH-944	686.14	678.35	677.8643	46	13	0	8.2757	12.566	0	0	0
MH-946	691.27	682.357	681.8548	46	15	0	9.4152	12.566	0	0	0
MH-961	679.46	668.457	668.1579	46	58	0	11.3021	12.566	0	0	0
MH-962	689.04	680.457	679.8817	46	15	0	9.1583	12.566	0	0	0
MH-968	681.12	668.299	667.8962	46	18	0	13.2238	12.566	0	0	0
MH-969	680.17	669.087	668.6693	46	15	0	11.5007	12.566	0	0	0
MH-976	678.37	669.087	663.5647	46	17	0	14.8053	12.566	0	0	0
MH-983	680.15	663.183	664.3014	46	54	1.1184	15.8486	12.566	0	0	0
MH-986	678.74	665.633	667.0757	46	56	1.4427	11.6643	12.566	0	0	0
MH-991	681.04	671.747	670.7457	46	15	0	10.2943	12.566	0	0	0
MH-993	688.87	681.957	681.447	46	15	0	7.423	12.566	0	0	0

Table 5
10-Year Recurrence Interval Event - Modeling Results - Existing Conditions
Pipe Summary - North Basin

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Proposed Pipe Diameter (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends Upstream (ft)	Maximum Water Elevation at Pipe Ends Downstream (ft)	Ratio d/D US	Ratio d/D DS
P-485	2.4042	6.8805	8.004		0.2532	46	15	4.4106	46	16	0.1053	689.3875	682.2858	0.221	0.219
P-486	2.4128	6.9053	8.004		0.253	46	16	4.3884	46	16	0.1049	682.2858	675.2053	0.219	0.248
P-487	1.8758	5.3683	8.004		0.2528	46	17	2.8975	45	47	0.1348	675.2053	670.5411	0.248	0.991
P-671	2.2315	4.0946	9.996		1.2601	46	27	3.9056	45	21	0.5647	670.5411	669.7086	0.794	2.519
P-2983	2.1464	3.9385	9.996		1.7027	46	24	3.9699	44	47	0.7933	669.7086	668.9542	2.519	2.946
P-2985	2.1504	3.9458	9.996	12	1.6999	46	51	3.5969	43	2	0.7905	668.9542	668.1213	2.946	3.303
P-2981	1.5777	2.8951	9.996	12	2.0523	47	1	3.713	47	1	1.3008	668.1213	667.0757	3.303	2.732
P-2979	1.5769	2.8935	9.996	12	2.0557	47	6	3.7349	47	6	1.3036	667.0757	665.7971	2.732	1.965
P-521	2.7888	5.1173	9.996	12	2.4206	46	58	5.3427	45	29	0.868	665.7971	664.3014	1.965	2.343
P-522	2.789	5.1177	9.996	12	2.4215	47	59	5.0707	45	17	0.8682	664.3014	662.6474	2.343	2.554
P-2909	3.4798	6.3852	9.996	12	2.8703	46	53	8.2215	0	2	0.8248	662.6474	660.6383	2.554	3.388
P-2910	3.4798	6.3851	9.996	12	2.8704	46	54	9.2551	0	2	0.8249	660.6383	658.4788	3.388	3.972
P-2915	1.6161	2.9655	9.996	15	2.0536	43	5	4.8441	0	2	1.2707	658.4788	657.9944	3.972	4.171
P-2916	1.6166	2.9664	9.996	15	2.0502	43	5	3.8213	43	3	1.2682	657.9944	657.5023	4.171	4.36
P-195	2.7139	4.9798	9.996	15	2.9026	46	51	5.2509	42	58	1.0695	657.5023	654.4341	4.36	3.796
P-196	2.7144	4.9807	9.996	15	2.9024	46	51	5.2344	46	51	1.0693	654.4341	651.7655	3.796	3.256
P-506	1.43	4.0926	8.004		0.2411	46	15	2.8091	46	16	0.1686	684.1204	680.6767	0.301	0.235
P-507	2.0242	5.793	8.004		0.2406	46	17	3.8515	46	17	0.1189	680.6767	673.875	0.235	0.232
P-501	1.3361	3.8238	8.004		0.2049	46	15	2.7201	46	16	0.1534	689.6889	688.1069	0.268	0.265
P-502	1.3293	3.8045	8.004		0.2047	46	16	2.5157	46	16	0.154	688.1069	686.6292	0.265	0.434
P-503	0.9141	2.6162	8.004		0.3483	46	18	2.3866	46	18	0.381	686.6292	685.7705	0.434	0.45
P-504	0.9016	2.5802	8.004		0.3478	46	20	2.3045	46	21	0.3858	685.7705	684.8635	0.45	0.41
P-899	1.2808	3.6656	8.004		0.1447	46	15	2.3184	46	15	0.1129	690.4013	689.719	0.227	0.298
P-901	0.9056	2.5917	8.004		0.1444	46	16	1.7167	46	17	0.1594	689.719	688.5591	0.298	0.209
P-904	1.5122	4.3279	8.004		0.1442	46	17	3.1206	0	4	0.0954	688.5591	686.6292	0.209	0.434
P-265	3.167	9.0637	8.004		0.0483	46	15	2.2867	46	15	0.0153	688.3473	683.3358	0.086	0.279
P-266	3.1056	8.8879	8.004		0.5267	46	19	6.0334	46	18	0.1696	683.3358	673.8169	0.279	0.46
P-505	1.2636	3.6163	8.004		0.5266	46	19	3.185	46	21	0.4168	673.8169	672.9228	0.46	0.652
P-267	1.2628	3.6141	8.004		0.8987	46	18	3.7305	46	18	0.7116	672.9228	671.9915	0.652	0.647
P-268	1.2635	3.6161	8.004		0.8987	46	18	3.6852	45	53	0.7113	671.9915	670.5411	0.647	0.991
P-261	0.9951	2.848	8.004		0.1444	46	16	1.9948	46	16	0.1451	672.3939	671.3913	0.261	0.257
P-262	0.7876	2.254	8.004		0.1442	46	17	1.3019	45	48	0.1831	670.8419	670.5411	0.303	1.231
P-269	2.1639	6.1929	8.004		0.2896	46	15	4.2476	46	15	0.1338	681.8548	677.8643	0.247	0.272
P-270	2.1636	6.1921	8.004		0.29	46	15	4.2032	45	47	0.134	677.8643	673.8397	0.272	0.244
P-271	2.1638	6.1925	8.004		0.3604	46	4	3.9847	46	4	0.1666	673.8397	669.7086	0.244	3.146
P-263	2.5185	7.2078	8.004		0.169	46	15	4.0212	46	5	0.0671	681.0959	674.3353	0.204	0.173
P-264	2.5251	7.2266	8.004		0.2641	46	5	3.8975	46	5	0.1046	674.3353	669.7086	0.173	3.146
P-272	3.2315	9.2483	8.004		0.1318	46	15	4.2552	45	55	0.0408	679.8817	668.1579	0.137	0.552
P-273	1.2929	3.7002	8.004		0.1628	47	11	2.0604	42	41	0.1259	668.1579	668.1213	0.552	3.45
P-259	1.941	5.5551	8.004		0.2369	46	15	3.7175	46	15	0.1221	674.0789	669.6002	0.238	0.236
P-260	1.9413	5.5558	8.004		0.2783	45	50	3.2849	42	43	0.1434	669.6002	668.1213	0.236	3.45
P-278	1.8801	5.3806	8.004		0.2237	46	15	3.5693	46	15	0.119	681.447	677.5751	0.235	0.232
P-277	2.4706	7.0705	8.004		0.2235	46	15	4.3521	46	15	0.0905	677.5568	670.7457	0.205	0.218
P-283	2.1307	6.0978	8.004		0.3087	46	15	3.7407	46	15	0.1449	670.7457	665.7971	0.218	2.454
P-284	2.9795	8.5271	8.004		0	0	0	0	0	0	0	670.7457	670.7457	0	0
P-257	1.9186	5.4908	8.004		0.1579	46	15	3.2949	46	15	0.0823	681.5198	676.5706	0.195	0.196
P-258	1.9321	5.5295	8.004		0.1576	46	17	3.2696	46	17	0.0816	676.5706	671.5484	0.196	0.193
P-308	3.0003	8.5867	8.004		0.2239	46	15	4.5997	46	15	0.0746	679.3232	670.4172	0.185	0.296
P-311	1.201	3.4372	8.004		0.2233	46	16	2.5881	46	17	0.1859	670.4172	668.6145	0.296	0.292
P-276	1.202	3.4401	8.004		0.231	46	34	2.5393	45	40	0.1922	663.5647	662.6474	0.292	1.84
P-275	0.8076	2.3113	8.004		0.2361	46	18	1.8699	46	18	0.2923	667.8962	667.0435	0.396	0.335
P-208	2.2051	6.3109	8.004		0.2104	46	15	3.9399	46	16	0.0954	678.7602	671.5588	0.21	0.208
P-207	2.6764	7.6596	8.004		0.2105	46	16	4.2955	44	47	0.0786	669.1632	662.6566	0.215	0.175
P-205	2.6816	7.6744	8.004		0.2673	45	4	16.5301	0	2	0.0997	662.6566	658.5107	0.175	3.659
P-204	0.9306	2.6633	8.004		0.2819	45	8	1.7453	42	33	0.3029	658.5107	658.4788	3.659	4.466
P-199	0.9548	2.7327	8.004		-0.3664	46	53	1.2041	42	51	-0.3838	657.9811	658.3234	0.421	2.804
P-202	0.9429	2.6985	8.004		-0.3664	46	52	-1.0271	46	52	-0.3886	658.3234	658.4788	2.804	4.466
P-211	2.2668	6.4873	8.004		0.1975	46	15	3.7549	46	15	0.0871	672.7603	669.7527	0.21	0.184
P-209	2.6625	7.62	8.004		0.1973	46	15	4.1701	46	15	0.0741	669.7527	660.5277	0.184	0.266
P-210	1.3029	3.7288	8.004		0.1969	46	17	2.8969	0	2	0.1511	660.5277	658.5948	0.266	0.262
P-3077	21.7997	12.3361	18		13.8042	46	15	12.2547	46	15	0.6332	675.8288	665.5306	0.613	0.58
P-3073	26.1881	14.8194	18		13.7974	46	15	13.1524	46	16	0.5269	665.5306	652.3238	0.58	0.516
P-3067	15.7527	8.9142	18		12.3273	46	15	7.7956	42	36	0.7826	652.0614	648.0873	1.468	2.365
P-3069	5.5605	3.1466	18		11.6338	46	46	6.5305	46	46	2.0922	648.0873	646.3692	2.365	1.433
P-3070	11.0648	6.2614	18		11.6338	46	46	6.6208	46	46	1.0514	646.3692	644.2072	1.433	0.865
P-3088	3.55	10.1599	8.004		0.158	46	15	4.0194	45	15	0.0445	669.7756	651.8445	0.143	0.517
P-3092	1.4511	4.1529	8.004		0.7392	46	49	4.0437	46	49	0.5094	651.8445	650.1555	0.517	0.533
P-3093	1.443	4.1297	8.004		0.7389	46	50	3.5758	46	47	0.5121	650.1555	648.8626	0.533	1.113
P-17061	13.1123	10.6849	15		3.6392	46	51	5.3615	46	46	0.2775	648.8626	648.0406	0.57	0.385
P-2956	9.9182	5.6125	18		1.4698	46	16	2.8525	46	16	0.1482	652.0614	651.7592	0.341	0.259
P-2957	14.0776	7.9663	18		1.4661	46	16	3.9413	46	16	0.1041	651.4967	648.0406	0.218	0.627
P-2958	8.7309	4.9407	18		5.7661	46	47	4.9787	46	48	0.6604	648.0406	646.3803	0.627	0.594
P-197	1.6806	3.0839	9.996	15	2.9023	46	51	5.2937	46	48	1.7269	651.7655	648.8626	3.256	0.892
P-274	0.8077	2.3116	8.004		0.2369	46	15	1.9721	46	16	0.2933	668.6693	667.8962	0.374	0.396
P-2917	1.6007	2.9584	9.96		1.3566	46	56	3.0333	44	50	0.8475	658.4788	657.5023	2.179	2.569
P-198	3.6852	6.811	9.96		0.5845	46	50	4.7406	46	51	0.1586	657.9023	655.2031	0.28	0.269
P-1000	3.0205	5.5424	9.996		-0.7875	45	16	4.3808	47	31	-0.2607	648.0406	648.0873	0.733	1.329
FREE	#	1	Undefnd		Undefnd	Undefn	11.6338	46	46						
FREE	#	2	Undefnd		Undefnd	Undefn	5.766	46	47						

Table 6
25-Year Recurrence Interval Event - Modeling Results - Existing Conditions
Pipe Summary - North Basin

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-1002	688.01	679.257	678.59	0	0	0	9.42	12.566	0	0	0
MH-1003	680.47	670.887	670.4318	46	16	0	10.0382	12.566	0	0	0
MH-1004	686.45	679.867	679.3319	46	15	0	7.1181	12.566	0	0	0
MH-16339	678.6	678.087	677.5668	46	15	0	1.0332	12.566	0	0	0
MH-16365	694.8	686.137	685.7969	46	20	0	9.0031	12.566	0	0	0
MH-16366	692.73	685.257	683.35	46	18	0	9.38	12.566	0	0	0
MH-16369	677.35	667.487	664.5559	47	0	0	12.7941	12.566	0	0	0
MH-1822	687.46	675.707	675.2544	47	59	0	12.2056	12.566	0	0	0
MH-1823	692.89	682.807	682.2992	45	46	0	10.5908	12.566	0	0	0
MH-1824	700.02	689.907	689.3993	46	15	0	10.6207	12.566	0	0	0
MH-1885	694.17	687.007	686.654	46	18	0	7.516	12.566	0	0	0
MH-1886	697.35	688.597	688.1203	46	16	0	9.2297	12.566	0	0	0
MH-1888	698.76	690.177	689.7027	46	15	0	9.0573	12.566	0	0	0
MH-1891	682.47	674.387	675.8591	47	0	1.4721	6.6109	12.566	0	0	0
MH-1893	690.94	681.187	680.6868	46	16	0	10.2532	12.566	0	0	0
MH-1895	696.5	684.587	684.1454	46	45	0	12.3546	12.566	0	0	0
MH-3088	698.25	689.087	688.5693	46	17	0	9.6807	12.566	0	0	0
MH-3089	700.35	690.187	689.7343	46	16	0	10.6157	12.566	0	0	0
MH-3090	699.25	690.917	690.4126	46	15	0	8.8374	12.566	0	0	0
MH-320	660.66	644.41	644.2209	46	47	0	16.4391	12.566	0	0	0
MH-343	660.87	647.813	648.2963	46	46	0.4833	12.5737	12.566	0	0	0
MH-354	660.62	649.886	652.0535	47	0	2.1675	8.5665	12.566	0	0	0
MH-355	666.12	652.105	654.9729	47	0	2.8679	11.1471	12.566	0	0	0
MH-356	670.73	659.087	658.3154	47	59	0	12.4146	12.566	0	0	0
MH-357	662.42	655.81	651.9364	46	55	0	10.4836	12.566	0	0	0
MH-358	666.59	658.5	657.9612	46	56	0	8.6288	12.566	0	0	0
MH-374	666.5	657.5	659.3658	47	0	1.8658	7.1342	12.566	0	0	0
MH-375	664.75	657.12	658.8966	47	0	1.7766	5.8534	12.566	0	0	0
MH-396	668.15	656.737	659.4054	47	59	2.6684	8.7446	12.566	0	0	0
MH-4199	692.91	676.41	675.9133	46	15	0	16.9967	12.566	0	0	0
MH-466	675.12	663.207	662.6578	43	16	0	12.4622	12.566	0	0	0
MH-467	681.52	672.087	669.1682	45	46	0	12.3518	12.566	0	0	0
MH-468	689.87	679.287	678.7702	46	15	0	11.0998	12.566	0	0	0
MH-470	672.35	661.017	660.5406	46	17	0	11.8094	12.566	0	0	0
MH-471	681.46	670.297	669.7614	46	15	0	11.6986	12.566	0	0	0
MH-472	682.45	673.287	672.7703	46	15	0	9.6797	12.566	0	0	0
MH-5152	670.49	658.649	662.0649	47	0	3.4159	8.4251	12.566	0	0	0
MH-5174	665.92	655.353	658.8449	47	59	3.4919	7.0751	12.566	0	0	0
MH-5568	658.82	646.99	646.5679	46	47	0	12.2521	12.566	0	0	0
MH-5571	661.85	648.81	648.2839	46	46	0	13.5661	12.566	0	0	0
MH-5572	665.87	652.87	651.6561	46	16	0	14.2139	12.566	0	0	0
MH-5574	665.94	653.05	652.3609	46	15	0	13.5791	12.566	0	0	0
MH-5724	677.33	667.333	672.2882	47	1	4.9552	5.0418	12.566	0	0	0
MH-6069	660.42	645.72	646.4882	46	47	0.7682	13.9318	12.566	0	0	0
MH-6075	681.16	666.16	665.6135	46	15	0	15.5465	12.566	0	0	0
MH-6090	662.05	649.4	648.9098	47	15	0	13.1402	12.566	0	0	0
MH-6092	682.68	670.347	669.7823	46	15	0	12.8977	12.566	0	0	0
MH-6168	663.92	650.467	650.2648	46	56	0	13.6552	12.566	0	0	0
MH-669	681.05	670.713	674.17	47	1	3.457	6.88	12.566	0	0	0
MH-670	689.72	671.887	674.2066	47	1	2.3196	15.5134	12.566	0	0	0
MH-671	696.64	672.887	674.2315	47	1	1.3445	22.4085	12.566	0	0	0
MH-672	678.61	668.443	673.2016	47	1	4.7586	5.4084	12.566	0	0	0
MH-673	683.22	674.887	674.3642	46	51	0	8.8558	12.566	0	0	0
MH-674	690.96	681.627	681.0994	45	45	0	9.8606	12.566	0	0	0
MH-871	679.09	670.11	671.3445	47	1	1.2345	7.7455	12.566	0	0	0
MH-877	685.75	674.587	674.0885	46	15	0	11.6615	12.566	0	0	0
MH-879	676.54	666.487	671.2762	47	1	4.7892	5.2638	12.566	0	0	0
MH-884	681.49	672.087	668.4358	47	1	0	13.0542	12.566	0	0	0
MH-886	687.77	677.107	676.5798	46	16	0	11.1902	12.566	0	0	0
MH-887	688.81	682.057	681.5289	46	15	0	7.2811	12.566	0	0	0
MH-937	680.8	672.227	675.2584	47	0	3.0314	5.5416	12.566	0	0	0
MH-938	682.09	674.177	676.0933	47	59	1.9163	5.9967	12.566	0	0	0
MH-940	695.96	688.957	688.3512	46	15	0	7.6088	12.566	0	0	0
MH-943	682.72	674.344	673.9295	47	0	0	8.7905	12.566	0	0	0
MH-944	686.14	678.35	677.869	45	21	0	8.271	12.566	0	0	0
MH-946	691.27	682.357	681.8702	46	15	0	9.3998	12.566	0	0	0
MH-961	679.46	668.457	671.3009	47	1	2.8439	8.1591	12.566	0	0	0
MH-962	689.04	680.457	679.8866	45	46	0	9.1534	12.566	0	0	0
MH-968	681.12	668.299	667.9172	46	18	0	13.2028	12.566	0	0	0
MH-969	680.17	669.087	668.6888	46	15	0	11.4812	12.566	0	0	0
MH-976	678.37	669.087	664.6429	47	0	0	13.7271	12.566	0	0	0
MH-983	680.15	663.183	666.5993	47	1	3.4163	13.5507	12.566	0	0	0
MH-986	678.74	665.633	670.0015	47	1	4.3685	8.7385	12.566	0	0	0
MH-991	681.04	671.747	670.7599	46	55	0	10.2801	12.566	0	0	0
MH-993	688.87	681.957	681.4583	46	15	0	7.4117	12.566	0	0	0

Table 6
25-Year Recurrence Interval Event - Modeling Results - Existing Conditions
Pipe Summary - North Basin

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Proposed Pipe Diameter (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends Upstream (ft)	Maximum Water Elevation at Pipe Ends Downstream (ft)	Ratio d/D US	Ratio d/D DS
P-485	2.4042	6.8805	8.004		0.292	46	15	4.5854	45	45	0.1214	689.3993	682.2992	0.239	0.239
P-486	2.4128	6.9053	8.004		0.2921	46	16	4.627	46	16	0.1211	682.2992	675.2544	0.239	0.321
P-487	1.8758	5.3683	8.004		0.3451	45	42	3.5367	45	42	0.184	675.2544	674.17	0.321	6.432
P-671	2.2315	4.0946	9.996		1.4205	47	59	3.897	44	44	0.6366	674.17	673.2016	5.15	6.713
P-2983	2.1464	3.9385	9.996		1.9191	46	56	3.9699	43	0	0.8941	673.2016	672.2882	6.713	6.949
P-2985	2.1504	3.9458	9.996	12	1.9176	47	1	3.6121	42	48	0.8917	672.2882	671.2762	6.949	7.09
P-2981	1.5777	2.8951	9.996	12	2.3162	47	0	4.0936	47	0	1.4681	671.2762	670.0015	7.09	6.244
P-2979	1.5769	2.8935	9.996	12	2.3184	47	6	4.1214	47	7	1.4702	670.0015	668.4358	6.244	5.133
P-521	2.7888	5.1173	9.996	12	2.7334	47	1	5.3444	44	44	0.9801	668.4358	666.5993	5.133	5.101
P-522	2.789	5.1177	9.996	12	2.734	47	3	5.0823	43	21	0.9803	666.5993	664.5559	5.101	4.845
P-2909	3.4798	6.3852	9.996	12	3.239	47	0	8.2215	0	2	0.9308	664.5559	662.0649	4.845	5.101
P-2910	3.4798	6.3851	9.996	12	3.2391	47	1	9.2551	0	2	0.9308	662.0649	659.3658	5.101	5.037
P-2915	1.6161	2.9655	9.996	15	2.0661	42	54	4.8441	0	2	1.2784	659.3658	658.8449	5.037	5.192
P-2916	1.6166	2.9664	9.996	15	2.0595	42	54	3.829	42	52	1.2739	658.8449	658.3154	5.192	5.337
P-195	2.7139	4.9798	9.996	15	3.0453	46	58	5.4408	46	58	1.1221	658.3154	654.9729	5.337	4.443
P-196	2.7144	4.9807	9.996	15	3.0452	47	59	5.4708	47	59	1.1219	654.9729	652.0535	4.443	3.602
P-506	1.43	4.0926	8.004		0.2781	46	15	2.9165	46	16	0.1945	684.1454	680.6868	0.338	0.25
P-507	2.0242	5.793	8.004		0.3535	46	28	4.0058	46	3	0.1747	680.6868	675.8591	0.25	3.207
P-501	1.3361	3.8238	8.004		0.2363	46	15	2.8297	46	16	0.1769	689.7027	688.1203	0.289	0.285
P-502	1.3293	3.8045	8.004		0.2361	46	16	2.6186	46	16	0.1776	688.1203	686.654	0.285	0.471
P-503	0.9141	2.6162	8.004		0.4018	46	18	2.4721	46	18	0.4395	686.654	685.7969	0.471	0.49
P-504	0.9016	2.5802	8.004		0.4012	46	20	2.3856	46	21	0.445	685.7969	684.8849	0.49	0.442
P-899	1.2808	3.6656	8.004		0.1668	46	15	2.4175	46	15	0.1303	690.4126	689.7343	0.244	0.321
P-901	0.9056	2.5917	8.004		0.1665	46	16	1.7889	46	17	0.1839	689.7343	688.5693	0.321	0.224
P-904	1.5122	4.3279	8.004		0.1664	46	17	3.1206	0	4	0.11	688.5693	686.654	0.224	0.471
P-265	3.167	9.0637	8.004		0.0557	46	15	2.559	46	20	0.0176	688.3512	683.35	0.092	0.3
P-266	3.1056	8.8879	8.004		0.7257	46	19	6.6018	46	19	0.2337	683.35	676.0933	0.3	3.873
P-505	1.2636	3.6163	8.004		0.6368	46	19	3.2387	45	44	0.504	676.0933	675.8591	3.873	5.054
P-267	1.2628	3.6141	8.004		1.0015	46	49	3.7697	45	28	0.7931	675.8591	675.2584	5.054	5.545
P-268	1.2635	3.6161	8.004		0.9948	46	51	3.7097	45	18	0.7873	675.2584	674.17	5.545	6.432
P-261	0.9951	2.848	8.004		0.17	47	26	2.0749	45	47	0.1708	674.2315	674.2066	3.016	4.478
P-262	0.7876	2.254	8.004		0.2912	47	38	1.3353	45	18	0.3697	674.2066	674.17	5.347	6.672
P-269	2.1639	6.1929	8.004		0.3339	46	15	4.3952	45	45	0.1543	681.8702	677.869	0.27	0.279
P-270	2.1636	6.1921	8.004		0.3341	46	15	4.4243	46	15	0.1544	677.869	673.9295	0.279	0.379
P-271	2.1638	6.1925	8.004		0.3825	45	18	4.0719	45	18	0.1768	673.9295	673.2016	0.379	8.383
P-263	2.5185	7.2078	8.004		0.1951	46	15	4.2169	46	45	0.0775	681.0994	674.3641	0.209	0.216
P-264	2.5251	7.2266	8.004		0.2766	45	18	3.9687	45	18	0.1095	674.3642	673.2016	0.216	8.383
P-272	3.2315	9.2483	8.004		0.2831	45	49	4.7336	45	49	0.0876	679.8866	671.3009	0.145	5.264
P-273	1.2929	3.7002	8.004		0.2535	47	45	2.1036	42	37	0.1961	671.3009	671.2762	5.264	8.18
P-259	1.941	5.5551	8.004		0.319	46	31	3.8229	45	40	0.1644	674.0885	671.3445	0.253	2.851
P-260	1.9413	5.5558	8.004		0.3097	47	28	3.3557	42	38	0.1595	671.3445	671.2762	2.851	8.18
P-278	1.8801	5.3806	8.004		0.2565	46	15	3.7084	46	15	0.1364	681.4583	677.5861	0.252	0.249
P-277	2.4706	7.0705	8.004		0.2567	46	16	4.5184	46	18	0.1039	677.5668	670.7599	0.22	0.24
P-283	2.1307	6.0978	8.004		0.318	45	23	3.7764	45	23	0.1493	670.7599	668.4358	0.24	6.41
P-284	2.9795	8.5271	8.004		0	0	0	0	0	0	0	670.7599	670.7599	0	0
P-257	1.9186	5.4908	8.004		0.1811	46	15	3.4276	46	15	0.0944	681.5289	676.5798	0.208	0.21
P-258	1.9321	5.5295	8.004		0.1807	46	17	3.3993	46	17	0.0935	676.5798	671.5575	0.21	0.206
P-308	3.0003	8.5867	8.004		0.2567	46	15	4.7909	46	15	0.0856	679.3319	670.4318	0.198	0.318
P-311	1.201	3.4372	8.004		0.256	46	16	2.6888	46	17	0.2132	670.4318	668.6289	0.318	0.313
P-276	1.202	3.4401	8.004		0.248	46	48	2.5651	44	49	0.2064	664.6429	664.5559	1.908	4.702
P-275	0.8076	2.3113	8.004		0.2706	46	18	1.9378	46	18	0.3351	667.9172	667.0602	0.428	0.36
P-208	2.2051	6.3109	8.004		0.2412	46	15	4.0953	46	15	0.1094	678.7702	671.5685	0.225	0.223
P-207	2.6764	7.6596	8.004		0.2413	46	16	4.3354	46	47	0.0902	669.1682	662.6578	0.222	0.177
P-205	2.6816	7.6744	8.004		0.2889	43	16	16.5301	0	2	0.1077	662.6578	659.4054	0.177	5.001
P-204	0.9306	2.6633	8.004		0.2732	43	18	1.7791	42	32	0.2936	659.4054	659.3658	5.001	5.796
P-199	0.9548	2.7327	8.004		-0.6414	47	0	-1.8856	47	0	-0.6718	658.0769	658.8966	0.565	3.664
P-202	0.9429	2.6985	8.004		-0.6414	47	59	-1.7837	47	59	-0.6803	658.8966	659.3658	3.664	5.796
P-211	2.2668	6.4873	8.004		0.2264	46	15	3.9029	46	15	0.0999	672.7703	669.7614	0.225	0.197
P-209	2.6625	7.62	8.004		0.2262	46	15	4.3446	46	15	0.085	669.7614	660.5406	0.197	0.286
P-210	1.3029	3.7288	8.004		0.2257	46	17	2.8969	0	2	0.1733	660.5406	658.6078	0.286	0.282
P-3077	21.7997	12.3361	18		15.6939	46	15	12.5774	46	15	0.7199	675.9133	665.6135	0.669	0.636
P-3073	26.1881	14.8194	18		15.6862	46	15	13.4364	46	16	0.599	665.6135	652.3866	0.636	0.558
P-3067	15.7527	8.9142	18		12.4849	46	15	7.8192	42	30	0.7926	652.3609	648.2963	1.667	2.504
P-3069	5.5605	3.1466	18		11.9426	46	47	6.6982	46	47	2.1478	648.2963	646.4882	2.504	1.512
P-3070	11.0648	6.2614	18		11.9426	46	47	6.788	46	47	1.0793	646.4882	644.2209	1.512	0.874
P-3088	3.55	10.1599	8.004		0.1811	46	15	3.9764	43	15	0.051	669.7823	651.9364	0.153	0.654
P-3092	1.4511	4.1529	8.004		1.0609	46	55	4.3488	46	55	0.7311	651.9364	650.2648	0.654	0.697
P-3093	1.443	4.1297	8.004		1.0608	46	56	3.9219	46	54	0.7351	650.2648	648.9098	0.697	1.184
P-17061	13.1123	10.6849	15		4.105	46	57	5.6496	47	1	0.3131	648.9098	648.2839	0.608	0.579
P-2956	9.9182	5.6125	18		3.2014	46	16	3.4016	46	16	0.3228	652.3609	651.9557	0.541	0.39
P-2957	14.0776	7.9663	18		3.1985	46	16	5.3703	46	16	0.2272	651.6561	648.2839	0.324	0.789
P-2958	8.7309	4.9407	18		7.7441	46	47	5.2279	46	48	0.887	648.2839	646.5679	0.789	0.719
P-197	1.6806	3.0839	9.996	15	3.0452	47	0	5.5343	47	59	1.8119	652.0535	648.9098	3.602	0.948
P-274	0.8077	2.3116	8.004		0.2716	46	15	2.0438	46	16	0.3363	668.6888	667.9172	0.403	0.428
P-2917	1.6007	2.9584	9.96		1.4164	47	2	3.0435	43	11	0.8849	659.3658	658.3154	3.248	3.549
P-198	3.6852	6.811	9.96		0.8865	46	57	5.2682	46	57	0.2406	657.9612	655.2569	0.351	0.334
P-1000	3.0205	5.5424	9.996		-0.7584	44	37	4.4467	47	50	-0.2511	648.2839	648.2963	1.025	1.58
FREE	#	1	Undefnd		Undefnd	Undefn	11.9426	46	47						
FREE	#	2	Undefnd		Undefnd	Undefn	7.7441	46	47						

Table 7
50-Year Recurrence Interval Event - Modeling Results - Existing Conditions
Pipe Summary - North Basin

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-1002	688.01	679.257	678.59	0	0	0	9.42	12.566	0	0	0
MH-1003	680.47	670.887	670.4422	46	16	0	10.0278	12.566	0	0	0
MH-1004	686.45	679.867	679.3379	46	15	0	7.1121	12.566	0	0	0
MH-16339	678.6	678.087	677.5717	46	16	0	1.0283	12.566	0	0	0
MH-16365	694.8	686.137	685.8163	46	20	0	8.9837	12.566	0	0	0
MH-16366	692.73	685.257	683.3788	46	54	0	9.3512	12.566	0	0	0
MH-16369	677.35	667.487	666.1538	47	1	0	11.1962	12.566	0	0	0
MH-1822	687.46	675.707	677.2578	47	1	1.5508	10.2022	12.566	0	0	0
MH-1823	692.89	682.807	682.3042	46	16	0	10.5858	12.566	0	0	0
MH-1824	700.02	689.907	689.4197	46	32	0	10.6003	12.566	0	0	0
MH-1885	694.17	687.007	686.672	46	18	0	7.498	12.566	0	0	0
MH-1886	697.35	688.597	688.1297	46	16	0	9.2203	12.566	0	0	0
MH-1888	698.76	690.177	689.7124	46	15	0	9.0476	12.566	0	0	0
MH-1891	682.47	674.387	679.0291	47	0	4.6421	3.4409	12.566	0	0	0
MH-1893	690.94	681.187	680.7247	46	56	0	10.2153	12.566	0	0	0
MH-1895	696.5	684.587	684.1549	45	50	0	12.3451	12.566	0	0	0
MH-3088	698.25	689.087	688.5766	46	17	0	9.6734	12.566	0	0	0
MH-3089	700.35	690.187	689.7451	46	16	0	10.6049	12.566	0	0	0
MH-3090	699.25	690.917	690.4206	46	15	0	8.8294	12.566	0	0	0
MH-320	660.66	644.41	644.2374	46	16	0	16.4226	12.566	0	0	0
MH-343	660.87	646.04	648.5924	46	16	2.5524	12.2776	12.566	0	0	0
MH-354	660.62	649.886	652.3832	46	50	2.4972	8.2368	12.566	0	0	0
MH-355	666.12	652.105	655.4808	46	57	3.3758	10.6392	12.566	0	0	0
MH-356	670.73	659.087	659.044	47	1	0	11.686	12.566	0	0	0
MH-357	662.42	655.81	652.018	46	55	0	10.402	12.566	0	0	0
MH-358	666.59	658.5	658.0003	46	57	0	8.5897	12.566	0	0	0
MH-374	666.5	657.5	660.1537	47	1	2.6537	6.3463	12.566	0	0	0
MH-375	664.75	657.12	659.3561	47	1	2.2361	5.3939	12.566	0	0	0
MH-396	668.15	656.737	660.2	47	1	3.463	7.95	12.566	0	0	0
MH-4199	692.91	676.41	676.0112	46	15	0	16.8988	12.566	0	0	0
MH-466	675.12	663.207	662.6754	46	48	0	12.4446	12.566	0	0	0
MH-467	681.52	672.087	669.171	45	45	0	12.349	12.566	0	0	0
MH-468	689.87	679.287	678.7772	46	15	0	11.0928	12.566	0	0	0
MH-470	672.35	661.017	660.5479	46	8	0	11.8021	12.566	0	0	0
MH-471	681.46	670.297	669.7674	46	15	0	11.6926	12.566	0	0	0
MH-472	682.45	673.287	672.7774	46	15	0	9.6726	12.566	0	0	0
MH-5152	670.49	658.649	663.284	47	2	4.635	7.206	12.566	0	0	0
MH-5174	665.92	655.353	659.6035	47	1	4.2505	6.3165	12.566	0	0	0
MH-5568	658.82	646.99	646.6505	46	48	0	12.1695	12.566	0	0	0
MH-5571	661.85	648.81	648.5273	46	47	0	13.3227	12.566	0	0	0
MH-5572	665.87	652.87	651.7679	46	16	0	14.1021	12.566	0	0	0
MH-5574	665.94	653.05	652.5794	46	16	0	13.3606	12.566	0	0	0
MH-5724	677.33	667.333	674.9818	47	2	7.6488	2.3482	12.566	0	0	0
MH-6069	660.42	645.72	646.6564	46	16	0.9364	13.7636	12.566	0	0	0
MH-6075	681.16	666.16	665.617	46	15	0	15.543	12.566	0	0	0
MH-6090	662.05	649.4	648.9557	46	48	0	13.0943	12.566	0	0	0
MH-6092	682.68	670.347	669.787	46	15	0	12.893	12.566	0	0	0
MH-6168	663.92	650.467	650.4061	46	52	0	13.5139	12.566	0	0	0
MH-669	681.05	670.713	677.1225	47	2	6.4095	3.9275	12.566	0	0	0
MH-670	689.72	671.887	677.1637	47	2	5.2767	12.5563	12.566	0	0	0
MH-671	696.64	672.887	677.1915	47	2	4.3045	19.4485	12.566	0	0	0
MH-672	678.61	668.443	676.0199	47	2	7.5769	2.5901	12.566	0	0	0
MH-673	683.22	674.887	676.0626	47	2	1.1756	7.1574	12.566	0	0	0
MH-674	690.96	681.627	681.1014	44	45	0	9.8586	12.566	0	0	0
MH-871	679.09	670.11	673.9054	47	2	3.7954	5.1846	12.566	0	0	0
MH-877	685.75	674.587	674.2113	47	1	0	11.5387	12.566	0	0	0
MH-879	676.54	666.487	673.8296	47	2	7.3426	2.7104	12.566	0	0	0
MH-884	681.49	672.087	670.5931	47	2	0	10.8969	12.566	0	0	0
MH-886	687.77	677.107	676.5865	46	16	0	11.1835	12.566	0	0	0
MH-887	688.81	682.057	681.5353	46	15	0	7.2747	12.566	0	0	0
MH-937	680.8	672.227	678.3516	47	1	6.1246	2.4484	12.566	0	0	0
MH-938	682.09	674.177	679.2935	47	0	5.1165	2.7965	12.566	0	0	0
MH-940	695.96	688.957	688.354	46	15	0	7.606	12.566	0	0	0
MH-943	682.72	674.344	676.1752	47	2	1.8312	6.5448	12.566	0	0	0
MH-944	686.14	678.35	677.874	47	0	0	8.266	12.566	0	0	0
MH-946	691.27	682.357	681.8878	46	22	0	9.3822	12.566	0	0	0
MH-961	679.46	668.457	673.857	47	2	5.4	5.603	12.566	0	0	0
MH-962	689.04	680.457	679.8874	45	19	0	9.1526	12.566	0	0	0
MH-968	681.12	668.299	667.9325	46	17	0	13.1875	12.566	0	0	0
MH-969	680.17	669.087	668.7029	46	15	0	11.4671	12.566	0	0	0
MH-976	678.37	669.087	666.2533	47	1	0	12.1167	12.566	0	0	0
MH-983	680.15	663.183	668.4962	47	2	5.3132	11.6538	12.566	0	0	0
MH-986	678.74	665.633	672.3792	47	2	6.7462	6.3608	12.566	0	0	0
MH-991	681.04	671.747	670.9051	47	2	0	10.1349	12.566	0	0	0
MH-993	688.87	681.957	681.4664	46	15	0	7.4036	12.566	0	0	0

Table 7
50-Year Recurrence Interval Event - Modeling Results - Existing Conditions
Pipe Summary - North Basin

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Proposed Pipe Diameter (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends Upstream (ft)	Maximum Water Elevation at Pipe Ends Downstream (ft)	Ratio d/D US	Ratio d/D DS
P-485	2.4042	6.8805	8.004		0.3209	46	15	4.7192	46	16	0.1335	689.4197	682.3042	0.269	0.246
P-486	2.4128	6.9053	8.004		0.4067	46	29	4.721	45	47	0.1685	682.3042	677.2578	0.246	3.325
P-487	1.8758	5.3683	8.004		0.3601	47	30	3.5388	45	13	0.192	677.2578	677.1225	3.325	10.86
P-671	2.2315	4.0946	9.996		1.5493	46	58	3.9085	43	1	0.6943	677.1225	676.0199	8.694	10.1
P-2983	2.1464	3.9385	9.996		2.0881	47	59	3.9938	42	50	0.9728	676.0199	674.9818	10.1	10.18
P-2985	2.1504	3.9458	9.996	15	2.0861	47	1	3.6216	42	42	0.9701	674.9818	673.8296	10.18	10.16
P-2981	1.5777	2.8951	9.996	15	2.5158	47	1	4.3649	47	1	1.5945	673.8296	672.3792	10.16	9.099
P-2979	1.5769	2.8935	9.996	15	2.5162	47	5	4.3956	47	8	1.5957	672.3792	670.5931	9.099	7.723
P-521	2.7888	5.1173	9.996	15	2.9652	47	4	5.3576	43	11	1.0632	670.5931	668.4962	7.723	7.378
P-522	2.789	5.1177	9.996	15	2.9698	47	8	5.2414	47	9	1.0648	668.4962	666.1538	7.378	6.763
P-2909	3.4798	6.3852	9.996	15	3.5143	47	1	8.2215	0	2	1.0099	666.1538	663.284	6.763	6.564
P-2910	3.4798	6.3851	9.996	15	3.5145	47	3	9.2551	0	2	1.01	663.284	660.1537	6.564	5.983
P-2915	1.6161	2.9655	9.996	15	2.0714	42	50	4.8441	0	2	1.2817	660.1537	659.6035	5.983	6.103
P-2916	1.6166	2.9664	9.996	15	2.0621	42	50	3.8313	42	48	1.2755	659.6035	659.044	6.103	6.211
P-195	2.7139	4.9798	9.996	15	3.1617	47	5	5.6197	47	5	1.165	659.044	655.4808	6.211	5.053
P-196	2.7144	4.9807	9.996	15	3.1633	47	5	5.6631	47	5	1.1654	655.4808	652.3832	5.053	3.998
P-506	1.43	4.0926	8.004		0.3065	46	15	3.1781	46	56	0.2143	684.1549	680.7247	0.352	0.307
P-507	2.0242	5.793	8.004		0.3801	45	46	4.0405	45	30	0.1878	680.7247	679.0291	0.307	7.96
P-501	1.3361	3.8238	8.004		0.2597	46	15	2.9026	46	16	0.1943	689.7124	688.1297	0.303	0.299
P-502	1.3293	3.8045	8.004		0.2594	46	16	2.6867	46	16	0.1951	688.1297	686.672	0.299	0.498
P-503	0.9141	2.6162	8.004		0.4414	46	18	2.5278	46	18	0.4829	686.672	685.8163	0.498	0.519
P-504	0.9016	2.5802	8.004		0.4408	46	20	2.4378	46	20	0.4889	685.8163	684.8996	0.519	0.464
P-899	1.2808	3.6656	8.004		0.1833	46	15	2.4798	46	15	0.1431	690.4206	689.7451	0.256	0.337
P-901	0.9056	2.5917	8.004		0.183	46	16	1.8368	46	17	0.2021	689.7451	688.5766	0.337	0.235
P-904	1.5122	4.3279	8.004		0.1828	46	17	3.1206	0	4	0.1209	688.5766	686.672	0.235	0.498
P-265	3.167	9.0637	8.004		0.0612	46	15	2.6151	45	43	0.0193	688.354	683.3788	0.096	0.343
P-266	3.1056	8.8879	8.004		0.7494	45	41	6.6706	45	41	0.2413	683.3788	679.2935	0.343	8.671
P-505	1.2636	3.6163	8.004		0.6571	46	20	3.2383	45	16	0.52	679.2935	679.0291	8.671	9.807
P-267	1.2628	3.6141	8.004		1.1157	46	18	3.7797	44	50	0.8835	679.0291	678.3516	9.807	10.18
P-268	1.2635	3.6161	8.004		1.1057	46	18	3.7035	44	45	0.8751	678.3516	677.1225	10.18	10.86
P-261	0.9951	2.848	8.004		0.1813	47	47	2.088	45	17	0.1822	677.1915	677.1637	7.454	8.911
P-262	0.7876	2.254	8.004		0.2964	47	58	1.3423	44	46	0.3763	677.1637	677.1225	9.781	11.1
P-269	2.1639	6.1929	8.004		0.3669	46	15	4.5207	46	15	0.1696	681.8878	677.874	0.297	0.286
P-270	2.1636	6.1921	8.004		0.4183	46	20	4.5032	45	44	0.1933	677.874	676.1752	0.286	3.745
P-271	2.1638	6.1925	8.004		0.3902	47	34	4.0618	44	41	0.1803	676.1752	676.0199	3.745	12.61
P-263	2.5185	7.2078	8.004		0.2949	46	39	4.3391	45	46	0.1171	681.1014	676.0626	0.212	2.762
P-264	2.5251	7.2266	8.004		0.2953	47	26	3.9802	44	41	0.117	676.0626	676.0199	2.762	12.61
P-272	3.2315	9.2483	8.004		0.2793	45	19	4.7147	45	19	0.0864	679.8874	673.8569	0.146	9.096
P-273	1.2929	3.7002	8.004		0.2478	48	4	2.1375	42	35	0.1916	673.857	673.8296	9.096	12.01
P-259	1.941	5.5551	8.004		0.3437	45	47	3.8258	45	15	0.1771	674.2113	673.9054	0.437	6.69
P-260	1.9413	5.5558	8.004		0.3354	47	49	3.4121	42	36	0.1728	673.9054	673.8296	6.69	12.01
P-278	1.8801	5.3806	8.004		0.2808	46	15	3.802	46	15	0.1493	681.4664	677.5938	0.264	0.261
P-277	2.4706	7.0705	8.004		0.2807	46	16	4.6057	45	47	0.1136	677.5717	670.9051	0.228	0.457
P-283	2.1307	6.0978	8.004		0.3236	44	46	3.8037	44	46	0.1519	670.9051	670.5931	0.457	9.645
P-284	2.9795	8.5271	8.004		0	0	0	0	0	0	0	670.9051	670.9051	0	0
P-257	1.9186	5.4908	8.004		0.1982	46	15	3.5171	46	15	0.1033	681.5353	676.5865	0.218	0.22
P-258	1.9321	5.5295	8.004		0.1978	46	16	3.484	46	17	0.1024	676.5865	671.5636	0.22	0.215
P-308	3.0003	8.5867	8.004		0.281	46	15	4.9164	46	15	0.0937	679.3379	670.4422	0.207	0.333
P-311	1.201	3.4372	8.004		0.2803	46	16	2.7552	46	17	0.2334	670.4422	668.639	0.333	0.328
P-276	1.202	3.4401	8.004		0.2734	46	20	2.5499	43	17	0.2275	666.2533	666.1538	4.323	7.097
P-275	0.8076	2.3113	8.004		0.2963	46	18	1.9818	46	18	0.3669	667.9325	667.0715	0.451	0.377
P-208	2.2051	6.3109	8.004		0.2641	46	15	4.2082	46	15	0.1198	678.7772	671.5756	0.236	0.233
P-207	2.6764	7.6596	8.004		0.2643	46	16	4.6948	46	48	0.0988	669.171	662.6754	0.226	0.203
P-205	2.6816	7.6744	8.004		0.2965	43	4	16.5301	0	2	0.1106	662.6754	660.2	0.203	6.192
P-204	0.9306	2.6633	8.004		0.2625	43	6	1.7973	42	31	0.2821	660.2	660.1537	6.192	6.977
P-199	0.9548	2.7327	8.004		-0.8415	47	1	-2.4372	47	1	-0.8813	658.1342	659.3561	0.651	4.352
P-202	0.9429	2.6985	8.004		-0.8415	47	1	-2.3238	47	1	-0.8925	659.3561	660.1537	4.352	6.977
P-211	2.2668	6.4873	8.004		0.2479	46	15	4.0049	46	15	0.1093	672.7774	669.7674	0.236	0.206
P-209	2.6625	7.62	8.004		0.2477	46	15	4.5593	46	45	0.093	669.7674	660.5479	0.206	0.297
P-210	1.3029	3.7288	8.004		0.2512	46	17	2.8969	0	2	0.1928	660.5479	659.044	0.297	0.935
P-3077	21.7997	12.3361	18		17.0937	46	15	12.5582	45	33	0.7841	676.0112	665.617	0.734	0.638
P-3073	26.1881	14.8194	18		17.0953	46	15	14.2513	46	16	0.6528	665.617	652.5794	0.638	0.686
P-3067	15.7527	8.9142	18		12.3696	46	16	7.8146	42	28	0.7852	652.5794	648.5924	1.813	2.702
P-3069	5.5605	3.1466	18		12.3696	46	16	6.9295	46	16	2.2245	648.5924	646.6564	2.702	1.624
P-3070	11.0648	6.2614	18		12.3697	46	16	7.0198	46	16	1.1179	646.6564	644.2374	1.624	0.885
P-3088	3.55	10.1599	8.004		0.1983	46	15	4.0656	43	9	0.0558	669.787	652.018	0.16	0.777
P-3092	1.4511	4.1529	8.004		1.2993	46	56	4.4276	47	8	0.8954	652.018	650.4061	0.777	0.909
P-3093	1.443	4.1297	8.004		1.3014	46	57	3.9851	46	3	0.9019	650.4061	648.9557	0.909	1.253
P-17061	13.1123	10.6849	15		4.4656	47	3	5.6975	47	9	0.3406	648.9557	648.5273	0.645	0.774
P-2956	9.9182	5.6125	18		4.7162	46	16	3.7781	46	16	0.4755	652.5794	652.0983	0.686	0.486
P-2957	14.0776	7.9663	18		4.7139	46	16	6.1708	46	16	0.3348	651.7679	648.5273	0.399	0.952
P-2958	8.7309	4.9407	18		9.011	46	48	5.291	47	2	1.0321	648.5273	646.6505	0.952	0.774
P-197	1.6806	3.0839	9.996	15	3.1652	47	4	5.7195	47	4	1.8834	652.3832	648.9557	3.998	1.003
P-274	0.8077	2.3116	8.004		0.2973	46	15	2.091	46	15	0.3681	668.7029	667.9325	0.424	0.451
P-2917	1.6007	2.9584	9.96		1.4692	47	6	3.0743	43	1	0.9179	660.1537	659.044	4.197	4.426
P-198	3.6852	6.811	9.96		1.1086	46	57	5.5623	46	57	0.3008	658.0003	655.2919	0.398	0.376
FREE	#	1	Undefnd		Undefnd	Undefn	12.3697	46	16						
FREE	#	2	Undefnd		Undefnd	Undefn	9.011	46	48						

Table 8
100-Year Recurrence Interval Event - Modeling Results - Existing Conditions
Manhole Summary - North Basin

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-1002	688.01	679.257	678.59	0	0	0	9.42	12.566	0	0	0
MH-1003	680.47	670.887	672.5986	46	19	1.7116	7.8714	12.566	0	0	0
MH-1004	686.45	679.867	679.3832	45	19	0	7.0668	12.566	0	0	0
MH-16339	678.6	678.087	677.684	46	16	0	0.916	12.566	0	0	0
MH-16365	694.8	686.137	686.0468	46	20	0	8.7532	12.566	0	0	0
MH-16366	692.73	685.257	683.753	46	19	0	8.977	12.566	0	0	0
MH-16369	677.35	667.487	671.8674	46	20	4.3804	5.4826	12.566	0	0	0
MH-1822	687.46	675.707	680.664	46	16	4.957	6.796	12.566	0	0	0
MH-1823	692.89	682.807	682.462	46	16	0	10.428	12.566	0	0	0
MH-1824	700.02	689.907	689.4737	46	15	0	10.5463	12.566	0	0	0
MH-1885	694.17	687.007	686.886	46	18	0	7.284	12.566	0	0	0
MH-1886	697.35	688.597	688.2175	46	16	0	9.1325	12.566	0	0	0
MH-1888	698.76	690.177	689.8038	46	15	0	8.9562	12.566	0	0	0
MH-1891	682.47	674.387	681.9353	46	15	7.5483	0.5347	12.566	0	0	0
MH-1893	690.94	681.187	682.5383	46	15	1.3513	8.4017	12.566	0	0	0
MH-1895	696.5	684.587	684.2637	46	15	0	12.2363	12.566	0	0	0
MH-3088	698.25	689.087	688.642	46	17	0	9.608	12.566	0	0	0
MH-3089	700.35	690.187	689.8465	46	16	0	10.5035	12.566	0	0	0
MH-3090	699.25	690.917	690.4977	46	15	0	8.7523	12.566	0	0	0
MH-320	660.66	644.41	644.4007	46	21	0	16.2593	12.566	0	0	0
MH-343	660.87	647.813	652.7084	46	21	4.8954	8.1616	12.566	0	0	0
MH-354	660.62	649.886	657.227	46	22	7.341	3.393	12.566	0	0	0
MH-355	666.12	652.105	660.6547	46	22	8.5497	5.4653	12.566	0	0	0
MH-356	670.73	659.087	664.5504	46	21	5.4634	6.1796	12.566	0	0	0
MH-357	662.42	655.81	661.0411	46	19	5.2311	1.3789	12.566	0	0	0
MH-358	666.59	658.5	661.7764	46	19	3.2764	4.8136	12.566	0	0	0
MH-374	666.5	657.5	665.6007	46	21	8.1007	0.8993	12.566	0	0	0
MH-375	664.75	657.12	663.9054	46	20	6.7854	0.8446	12.566	0	0	0
MH-396	668.15	656.737	665.7709	46	21	9.0339	2.3791	12.566	0	0	0
MH-4199	692.91	676.41	692.91	45	12	16.5	0	12.566	0	0	0
MH-466	675.12	663.207	665.9984	46	20	2.7914	9.1216	12.566	0	0	0
MH-467	681.52	672.087	669.2246	46	16	0	12.2954	12.566	0	0	0
MH-468	689.87	679.287	678.8414	46	15	0	11.0286	12.566	0	0	0
MH-470	672.35	661.017	664.8022	46	21	3.7852	7.5478	12.566	0	0	0
MH-471	681.46	670.297	669.8201	46	15	0	11.6399	12.566	0	0	0
MH-472	682.45	673.287	672.8436	46	15	0	9.6064	12.566	0	0	0
MH-5152	670.49	658.649	668.8728	46	21	10.2238	1.6172	12.566	0	0	0
MH-5174	665.92	655.353	665.0799	46	21	9.7269	0.8401	12.566	0	0	0
MH-5568	658.82	646.99	646.9176	46	21	0	11.9024	12.566	0	0	0
MH-5571	661.85	648.81	653.0026	46	21	4.1926	8.8474	12.566	0	0	0
MH-5572	665.87	652.87	657.0132	46	21	4.1432	8.8568	12.566	0	0	0
MH-5574	665.94	653.05	658.1749	46	21	5.1249	7.7651	12.566	0	0	0
MH-5724	677.33	667.333	677.33	43	8	9.997	0	12.566	0	0	0
MH-6069	660.42	645.72	649.007	46	21	3.287	11.413	12.566	0	0	0
MH-6075	681.16	666.16	675.9439	46	22	9.7839	5.2161	12.566	0	0	0
MH-6090	662.05	649.4	653.3897	46	21	3.9897	8.6603	12.566	0	0	0
MH-6092	682.68	670.347	669.8138	46	15	0	12.8662	12.566	0	0	0
MH-6168	663.92	650.467	657.3946	46	19	6.9276	6.5254	12.566	0	0	0
MH-669	681.05	670.713	680.0927	46	16	9.3797	0.9573	12.566	0	0	0
MH-670	689.72	671.887	680.2703	46	16	8.3833	9.4497	12.566	0	0	0
MH-671	696.64	672.887	680.3917	46	15	7.5047	16.2483	12.566	0	0	0
MH-672	678.61	668.443	678.61	43	9	10.167	0	12.566	0	0	0
MH-673	683.22	674.887	678.7977	46	15	3.9107	4.4223	12.566	0	0	0
MH-674	690.96	681.627	681.1706	46	15	0	9.7894	12.566	0	0	0
MH-871	679.09	670.11	676.8554	46	15	6.7454	2.2346	12.566	0	0	0
MH-877	685.75	674.587	677.2456	46	15	2.6586	8.5044	12.566	0	0	0
MH-879	676.54	666.487	676.54	43	23	10.053	0	12.566	0	0	0
MH-884	681.49	672.087	675.1194	46	19	3.0324	6.3706	12.566	0	0	0
MH-886	687.77	677.107	676.6827	46	16	0	11.0873	12.566	0	0	0
MH-887	688.81	682.057	681.5925	46	15	0	7.2175	12.566	0	0	0
MH-937	680.8	672.227	680.8	43	6	8.573	0	12.566	0	0	0
MH-938	682.09	674.177	682.09	43	6	7.913	0	12.566	0	0	0
MH-940	695.96	688.957	688.3788	46	15	0	7.5812	12.566	0	0	0
MH-943	682.72	674.344	679.2755	46	15	4.9315	3.4445	12.566	0	0	0
MH-944	686.14	678.35	679.7367	46	15	1.3867	6.4033	12.566	0	0	0
MH-946	691.27	682.357	681.9816	46	15	0	9.2884	12.566	0	0	0
MH-961	679.46	668.457	676.6549	46	15	8.1979	2.8051	12.566	0	0	0
MH-962	689.04	680.457	679.946	46	15	0	9.094	12.566	0	0	0
MH-968	681.12	668.299	672.2799	46	20	3.9809	8.8401	12.566	0	0	0
MH-969	680.17	669.087	672.6653	46	19	3.5783	7.5047	12.566	0	0	0
MH-976	678.37	669.087	672.2329	46	20	3.1459	6.1371	12.566	0	0	0
MH-983	680.15	663.183	673.576	46	20	10.393	6.574	12.566	0	0	0
MH-986	678.74	665.633	675.8988	46	19	10.2658	2.8412	12.566	0	0	0
MH-991	681.04	671.747	675.5273	46	19	3.7803	5.5127	12.566	0	0	0
MH-993	688.87	681.957	681.5373	46	15	0	7.3327	12.566	0	0	0

Table 8
100-Year Recurrence Interval Event - Modeling Results - Existing Conditions
Manhole Summary - North Basin

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Proposed Pipe Diameter (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends Upstream (ft)	Maximum Water Elevation at Pipe Ends Downstream (ft)	Ratio d/D US	Ratio d/D DS
P-485	2.4042	6.8805	8.004		0.3506	46	15	4.832	46	45	0.1458	689.4271	682.323	0.28	0.274
P-486	2.4128	6.9053	8.004		0.4364	45	48	4.7425	45	17	0.1809	682.323	679.7685	0.274	7.089
P-487	1.8758	5.3683	8.004		0.3763	47	50	3.4875	44	17	0.2006	679.7685	679.6082	7.089	14.59
P-671	2.2315	4.0946	9.996		1.6537	46	45	3.9336	42	53	0.7411	679.6082	678.4568	11.68	13.02
P-2983	2.1464	3.9385	9.996	12	2.2159	46	47	4.0117	42	45	1.0324	678.4568	677.33	13.02	13
P-2985	2.1504	3.9458	9.996	15	2.2087	46	48	3.7688	46	47	1.0271	677.33	676.1082	13	12.89
P-2981	1.5777	2.8951	9.996	15	2.6733	46	50	4.5669	46	49	1.6943	676.1082	674.5361	12.89	11.69
P-2979	1.5769	2.8935	9.996	15	2.6678	46	52	4.5905	46	50	1.6918	674.5361	672.5973	11.69	10.13
P-521	2.7888	5.1173	9.996	15	3.1563	46	56	5.4763	46	55	1.1317	672.5973	670.2897	10.13	9.531
P-522	2.789	5.1177	9.996	15	3.1541	46	58	5.5228	47	28	1.1309	670.2897	667.7032	9.531	8.623
P-2909	3.4798	6.3852	9.996	15	3.7496	47	6	8.2215	0	2	1.0775	667.7032	664.5074	8.623	8.033
P-2910	3.4798	6.3851	9.996	15	3.7535	47	6	9.2551	0	2	1.0787	664.5074	661.0062	8.033	7.006
P-2915	1.6161	2.9655	9.996	15	2.076	42	47	4.8441	0	2	1.2846	661.0062	660.4393	7.006	7.106
P-2916	1.6166	2.9664	9.996	15	2.0636	42	47	3.8316	42	45	1.2765	660.4393	659.8631	7.106	7.195
P-195	2.7139	4.9798	9.996	15	3.2673	47	6	5.7759	47	6	1.2039	659.8631	656.1612	7.195	5.869
P-196	2.7144	4.9807	9.996	15	3.2726	47	5	5.8349	47	5	1.2057	656.1612	652.9334	5.869	4.658
P-506	1.43	4.0926	8.004		0.3498	46	43	3.2846	45	55	0.2446	684.1569	681.7883	0.355	1.902
P-507	2.0242	5.793	8.004		0.3819	45	16	4.0541	44	50	0.1887	681.7883	681.6136	1.902	11.83
P-501	1.3361	3.8238	8.004		0.283	46	15	2.9721	46	16	0.2118	689.7219	688.1388	0.318	0.313
P-502	1.3293	3.8045	8.004		0.2827	46	16	2.7512	46	16	0.2127	688.1388	686.6897	0.313	0.524
P-503	0.9141	2.6162	8.004		0.4811	46	18	2.5787	46	18	0.5263	686.6897	685.8355	0.524	0.548
P-504	0.9016	2.5802	8.004		0.4804	46	20	2.486	46	20	0.5328	685.8355	684.914	0.548	0.486
P-899	1.2808	3.6656	8.004		0.1998	46	15	2.5361	46	15	0.156	690.4286	689.7555	0.268	0.353
P-901	0.9056	2.5917	8.004		0.1994	46	16	1.8825	46	17	0.2202	689.7555	688.5835	0.353	0.245
P-904	1.5122	4.3279	8.004		0.1992	46	17	3.1206	0	4	0.1318	688.5835	686.6897	0.245	0.524
P-265	3.167	9.0637	8.004		0.0667	46	15	2.6365	45	14	0.0211	688.3566	683.4934	0.1	0.515
P-266	3.1056	8.8879	8.004		0.7245	46	19	6.6109	45	11	0.2333	683.4934	681.929	0.515	12.62
P-505	1.2636	3.6163	8.004		0.7148	46	21	3.2101	43	20	0.5657	681.929	681.6136	12.62	13.68
P-267	1.2628	3.6141	8.004		1.2137	46	50	3.7603	43	17	0.9611	681.6136	680.8	13.68	13.85
P-268	1.2635	3.6161	8.004		1.1571	46	44	3.7089	43	8	0.9158	680.8	679.6082	13.85	14.59
P-261	0.9951	2.848	8.004		0.1903	46	49	2.0335	44	35	0.1912	679.6914	679.6577	11.2	12.65
P-262	0.7876	2.254	8.004		0.3253	48	16	1.3303	48	19	0.413	679.6577	679.6082	13.52	14.82
P-269	2.1639	6.1929	8.004		0.3998	46	15	4.6239	46	6	0.1848	681.8951	678.7699	0.307	1.63
P-270	2.1636	6.1921	8.004		0.4406	45	43	4.5142	45	15	0.2037	678.7699	678.6413	1.63	7.443
P-271	2.1638	6.1925	8.004		0.403	47	54	4.0655	43	10	0.1862	678.6413	678.4568	7.443	16.26
P-263	2.5185	7.2078	8.004		0.3231	45	51	4.3602	45	16	0.1283	681.1	678.5083	0.21	6.429
P-264	2.5251	7.2266	8.004		0.3284	47	47	3.9528	43	11	0.1301	678.5083	678.4568	6.429	16.26
P-272	3.2315	9.2483	8.004		0.2609	44	39	4.5644	44	39	0.0807	679.8861	676.1407	0.144	12.52
P-273	1.2929	3.7002	8.004		0.2782	48	19	2.1709	42	33	0.2152	676.1407	676.1082	12.52	15.42
P-259	1.941	5.5551	8.004		0.3494	45	17	3.7548	43	15	0.18	676.3102	676.198	3.583	10.13
P-260	1.9413	5.5558	8.004		0.336	48	8	3.4702	42	34	0.1731	676.198	676.1082	10.13	15.42
P-278	1.8801	5.3806	8.004		0.3051	46	15	3.8941	46	15	0.1623	681.474	677.6014	0.276	0.272
P-277	2.4706	7.0705	8.004		0.389	46	19	4.6231	45	31	0.1574	677.5782	672.7199	0.237	3.178
P-283	2.1307	6.0978	8.004		0.3418	47	36	3.7668	43	18	0.1604	672.7199	672.5973	3.178	12.65
P-284	2.9795	8.5271	8.004		0	0	0	0	0	0	0	678.59	672.7199	0	0
P-257	1.9186	5.4908	8.004		0.2154	46	15	3.6027	46	15	0.1123	681.5415	676.5928	0.227	0.229
P-258	1.9321	5.5295	8.004		0.22	46	18	3.616	46	18	0.1139	676.5928	672.5973	0.229	1.765
P-308	3.0003	8.5867	8.004		0.3053	46	15	5.0335	46	15	0.1018	679.3436	670.4523	0.215	0.348
P-311	1.201	3.4372	8.004		0.3046	46	16	2.8175	46	17	0.2536	670.4523	668.6487	0.348	0.343
P-276	1.202	3.4401	8.004		0.301	46	21	2.5821	43	5	0.2504	667.8172	667.7032	6.668	9.42
P-275	0.8076	2.3113	8.004		0.3358	46	22	2.1306	46	23	0.4158	667.9802	667.7032	0.522	1.324
P-208	2.2051	6.3109	8.004		0.287	46	15	4.3106	46	15	0.1301	678.7838	671.5824	0.246	0.243
P-207	2.6764	7.6596	8.004		0.2871	46	16	4.9441	46	16	0.1073	669.1718	662.7074	0.228	0.251
P-205	2.6816	7.6744	8.004		0.3132	42	57	16.5301	0	2	0.1168	662.7074	661.0606	0.251	7.482
P-204	0.9306	2.6633	8.004		0.2802	46	21	1.812	42	30	0.3011	661.0606	661.0062	7.482	8.255
P-199	0.9548	2.7327	8.004		-1.0308	47	59	-2.9486	47	59	-1.0796	658.1816	659.8247	0.722	5.055
P-202	0.9429	2.6985	8.004		-1.0309	46	58	-2.8255	46	58	-1.0933	659.8247	661.0062	5.055	8.255
P-211	2.2668	6.4873	8.004		0.2693	46	15	4.0978	46	15	0.1188	672.7843	669.7731	0.246	0.215
P-209	2.6625	7.62	8.004		0.2691	46	15	4.64	45	54	0.1011	669.7731	660.562	0.215	0.318
P-210	1.3029	3.7288	8.004		0.2773	46	18	2.8969	0	2	0.2128	660.562	659.8631	0.318	2.164
P-3077	21.7997	12.3361	18		18.4954	46	15	12.6196	45	13	0.8484	676.1004	665.6538	0.794	0.663
P-3073	26.1881	14.8194	18		18.4967	46	15	14.4962	46	16	0.7063	665.6538	652.8106	0.663	0.84
P-3067	15.7527	8.9142	18		12.5383	45	14	7.8158	42	27	0.7959	652.8106	649.0554	1.967	3.01
P-3069	5.5605	3.1466	18		13.014	46	47	7.2769	46	47	2.3404	649.0554	646.9188	3.01	1.799
P-3070	11.0648	6.2614	18		13.0141	46	47	7.37	46	47	1.1762	646.9188	644.2588	1.799	0.899
P-3088	3.55	10.1599	8.004		0.3624	46	14	5.6105	46	14	0.1021	669.7913	653.4461	0.167	2.918
P-3092	1.4511	4.1529	8.004		1.5327	46	54	4.4155	45	35	1.0562	653.4461	651.4548	2.918	2.481
P-3093	1.443	4.1297	8.004		1.5355	46	55	4.3603	47	2	1.0641	651.4548	649.3527	2.481	1.848
P-17061	13.1123	10.6849	15	18	4.8366	47	2	5.7354	47	19	0.3689	649.3527	649.1055	0.962	1.236
P-2956	9.9182	5.6125	18		6.4331	46	16	4.1926	46	16	0.6486	652.8106	652.25	0.84	0.587
P-2957	14.0776	7.9663	18		6.4294	46	16	6.452	46	16	0.4567	651.9379	649.1055	0.512	1.337
P-2958	8.7309	4.9407	18		10.056	46	47	5.7535	46	47	1.1518	649.1055	646.7108	1.337	0.814
P-197	1.6806	3.0839	9.996	15	3.2803	47	3	5.8829	47	2	1.9518	652.9334	649.3527	4.658	1.48
P-274	0.8077	2.3116	8.004		0.3231	46	15	2.1354	46	15	0.4	668.7165	667.9802	0.445	0.522
P-2917	1.6007	2.9584	9.96		1.5079	47	10	3.0833	42	55	0.9421	661.0062	659.8631	5.224	5.413
P-198	3.6852	6.811	9.96		1.3226	46	55	5.7961	46	55	0.3589	658.0362	655.3235	0.441	0.414
P-1000	3.0205	5.5424	9.996		1.0167	46	47	4.626	48	11	0.3366	649.1055	649.0554	2.011	2.491
FREE	#	1	Undefnd		Undefnd	Undefn	13.0141	46	47						
FREE	#	2	Undefnd		Undefnd	Undefn	10.056	46	47						

Table 9
6-Month Recurrence Interval Event - Modeling Results - Existing Conditions
Pipe Summary - South Basin

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-993	689	682.09	681.5618	46	15	0	7.4382	12.566	0	0	0
MH-999	683.01	674.01	672.7141	46	21	0	10.2959	12.566	0	0	0
MH-1001	685.92	679.09	678.5238	46	16	0	7.3962	12.566	0	0	0
MH-2496	685.3	676.26	675.3937	46	21	0	9.9063	12.566	0	0	0
MH-2497	687.62	677.79	677.316	46	18	0	10.304	12.566	0	0	0
MH-2499	690.87	679.29	678.8186	46	16	0	12.0514	12.566	0	0	0
MH-2507	691.29	680.46	679.9894	46	15	0	11.3006	12.566	0	0	0
MH-2592	687.8	676.5533	676.2028	46	21	0	11.5972	12.566	0	0	0
MH-2594	691.34	678.34	677.1427	46	20	0	14.1973	12.566	0	0	0
MH-2598	693.94	680.53	680.0321	46	17	0	13.9079	12.566	0	0	0
MH-2599	692.41	682.41	681.9225	46	16	0	10.4875	12.566	0	0	0
MH-2610	692.87	684.29	683.7992	46	15	0	9.0708	12.566	0	0	0
MH-2630	694	678.4533	677.9694	46	20	0	16.0306	12.566	0	0	0
MH-2631	697.74	686.59	678.8484	46	19	0	18.8916	12.566	0	0	0
MH-2645	683.5	674.7533	674.3704	46	21	0	9.1296	12.566	0	0	0
MH-2707	696.91	687.91	687.413	46	17	0	9.497	12.566	0	0	0
MH-2709	696.97	689.22	688.7257	46	16	0	8.2443	12.566	0	0	0
MH-2743	697.98	690.48	689.9995	46	15	0	7.9805	12.566	0	0	0
MH-2831	685.54	678.45	677.8727	46	18	0	7.6673	12.566	0	0	0
MH-2833	687.69	680.61	680.1517	46	16	0	7.5383	12.566	0	0	0
MH-2835	689.67	681.01	680.5521	46	18	0	9.1179	12.566	0	0	0
MH-2836	690.3	681.97	681.4695	46	17	0	8.8305	12.566	0	0	0
MH-2839	686.55	676.55	675.89	46	17	0	10.66	12.566	0	0	0
MH-2840	683.76	677.17	676.5129	46	15	0	7.2471	12.566	0	0	0
MH-2895	690.15	682.49	682.0119	46	15	0	8.1381	12.566	0	0	0
MH-2898	695.43	687.6	687.0427	46	15	0	8.3873	12.566	0	0	0
MH-2920	694.86	691.09	682.066	46	16	0	12.794	12.566	0	0	0
MH-2921	696.85	689.09	683.0904	46	21	0	13.7596	12.566	0	0	0
MH-2922	702.44	690.28	689.6624	46	22	0	12.7776	12.566	0	0	0
MH-2933	692.47	684.69	684.061	46	18	0	8.409	12.566	0	0	0
MH-2939	705.43	695.09	694.4674	46	17	0	10.9626	12.566	0	0	0
MH-2960	699.96	691.88	691.2595	46	17	0	8.7005	12.566	0	0	0
MH-2975	698	680.0467	679.5819	46	21	0	18.4181	12.566	0	0	0
MH-2976	698.01	680.9267	680.4611	46	19	0	17.5489	12.566	0	0	0
MH-2978	698.89	681.7267	681.2615	46	17	0	17.6285	12.566	0	0	0
MH-3072	698.54	689.38	688.945	46	19	0	9.595	12.566	0	0	0
MH-3073	700.04	690.46	690.0092	46	18	0	10.0308	12.566	0	0	0
MH-3074	702.25	691.34	690.8878	46	16	0	11.3622	12.566	0	0	0
MH-3075	706.07	694.41	693.8585	46	19	0	12.2115	12.566	0	0	0
MH-3076	709.37	696.62	696.0685	46	17	0	13.3015	12.566	0	0	0
MH-3078	710	698.82	698.2689	46	16	0	11.7311	12.566	0	0	0
MH-3079	708.94	701.28	700.7288	46	15	0	8.2112	12.566	0	0	0
MH-3080	693.25	681.09	680.6654	46	20	0	12.5846	12.566	0	0	0
MH-3081	690.5	682.79	682.3599	46	18	0	8.1401	12.566	0	0	0
MH-3082	694.34	685.11	684.0083	46	16	0	10.3317	12.566	0	0	0
MH-3083	695.83	687.08	686.5325	46	15	0	9.2975	12.566	0	0	0
MH-3086	697.88	687.13	686.6352	46	21	0	11.2448	12.566	0	0	0
MH-3087	698.06	689.18	687.9806	46	20	0	10.0794	12.566	0	0	0
MH-3200	681.42	672.85	671.5499	46	22	0	9.8701	12.566	0	0	0
MH-3204	685.4	672.26	669.4616	46	24	0	15.9384	12.566	0	0	0
MH-3207	684.51	671.75	670.2096	46	23	0	14.3004	12.566	0	0	0
MH-4634	701.25	693.59	692.9387	46	15	0	8.3113	12.566	0	0	0
MH-16260	705.51	694.88	694.2603	46	27	0	11.2497	12.566	0	0	0
MH-16261	706.26	695.38	694.7468	46	21	0	11.5132	12.566	0	0	0
MH-16262	705.11	696.28	695.6371	46	16	0	9.4729	12.566	0	0	0
MH-16263	706.02	696.58	695.9372	46	22	0	10.0828	12.566	0	0	0
MH-16264	706.73	697.07	696.4262	46	19	0	10.3038	12.566	0	0	0
MH-16265	707.89	697.51	696.8725	46	16	0	11.0175	12.566	0	0	0
MH-16266	706.71	694.37	691.7245	46	23	0	14.9855	12.566	0	0	0
MH-635	676.2	669.92	668.7565	46	19	0	7.4435	12.566	0	0	0
MH-1005	682.65	678.49	671.5392	46	16	0	11.1108	12.566	0	0	0
MH-1006	689.42	681.09	680.5164	46	15	0	8.9036	12.566	0	0	0
MH-2646	683.4	673.15	672.32	0	0	0	11.08	12.566	0	0	0
MH-4319	679	670.79	670.11	0	0	0	8.89	12.566	0	0	0
MH-4320	683	672.44	671.59	0	0	0	11.41	12.566	0	0	0
MH-4321	677.62	670.85	670.1608	46	17	0	7.4592	12.566	0	0	0
MH-604	685.1	674.55	666.4989	46	19	0	18.6011	12.566	0	0	0
MH-634	679	668.26	667.5732	46	21	0	11.4268	12.566	0	0	0
MH-2841	678	673.76	667.6878	46	24	0	10.3122	12.566	0	0	0
MH-2842	679.5	674.74	674.1934	46	17	0	5.3066	12.566	0	0	0
MH-2843	682.25	675.55	674.9996	46	15	0	7.2504	12.566	0	0	0
MH-3208	680	665.87	664.3145	46	26	0	15.6855	12.566	0	0	0
MH-3209	679	667.4	666.0855	46	25	0	12.9145	12.566	0	0	0
MH-3210	678	668.43	667.1228	46	24	0	10.8772	12.566	0	0	0
MH-4343	678	674.04	673.5038	46	17	0	4.4962	12.566	0	0	0
MH-4344	684.5	675.19	674.646	46	15	0	9.854	12.566	0	0	0
MH-602	675.4	663.95	663.37	0	0	0	12.03	12.566	0	0	0
MH-603	680	665.55	664.8989	46	20	0	15.1011	12.566	0	0	0
MH-621	687.5	676.09	675.5239	46	18	0	11.9761	12.566	0	0	0
MH-622	690	678.1	677.5366	46	16	0	12.4634	12.566	0	0	0
MH-624	690	680.16	679.5957	46	15	0	10.4043	12.566	0	0	0

Table 9
6-Month Recurrence Interval Event - Modeling Results - Existing Conditions
Pipe Summary - South Basin

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Proposed Pipe Diameter (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends Upstream (ft)	Maximum Water Elevation at Pipe Ends Downstream (ft)	Ratio d/D US	Ratio d/D DS
P-795	1.0234	2.9026	8.04		0.0097	46	17	0.874	46	17	0.0094	694.4674	693.1621	0.071	0.063
P-796	0.9213	2.6131	8.04		0.0165	46	23	0.954	46	23	0.0179	691.7245	690.477	0.096	0.085
P-797	0.8878	2.5434	8		0.1816	46	16	1.9846	46	17	0.2045	682.066	681.2615	0.309	0.302
P-798	0.9147	2.6205	8		0.1815	46	18	2.0391	46	19	0.1984	681.2615	680.4611	0.302	0.302
P-799	0.9158	2.6236	8		0.1814	46	19	2.2142	0	8	0.1981	680.4611	679.5819	0.302	0.303
P-800	0.9085	2.6023	8.0004		0.1813	46	21	2.4288	0	15	0.1995	679.5819	678.8484	0.303	0.538
P-587	1.9652	3.6035	9.9996		0.7463	46	20	3.3388	46	21	0.3797	678.8484	677.9694	0.43	0.419
P-589	2.0335	3.7287	9.9996		0.7462	46	20	3.7793	0	12	0.3669	677.9694	677.1427	0.419	0.567
P-591	2.0402	3.7408	9.9996		1.2524	46	20	3.9131	46	21	0.6139	677.1427	676.2028	0.567	0.579
P-592	1.9969	3.6613	10		1.2524	46	21	3.7321	46	22	0.6272	676.2028	675.3937	0.579	0.7
P-594	1.9574	3.5888	10		1.5982	46	21	3.9884	0	3	0.8165	675.3937	674.3704	0.712	0.54
P-596	2.8093	5.1511	9.9996		1.5982	46	22	5.3078	46	22	0.5689	674.3704	672.7141	0.541	0.545
P-1055	12.484	5.1902	21		1.8388	46	22	3.7081	46	23	0.1473	672.7141	671.5527	0.259	0.259
P-1056	12.1716	5.0604	21		1.8387	46	23	3.6418	46	24	0.1511	671.5499	670.4586	0.263	0.262
P-1057	12.7218	5.2891	21		1.8387	46	23	3.7594	46	24	0.1445	670.2096	669.4884	0.257	0.256
P-281	1.5457	4.3841	8.04		0.1273	46	15	2.4236	46	16	0.0824	681.5618	678.5238	0.212	0.155
P-282	2.4502	6.9497	8.04		0.1272	46	16	3.6523	46	16	0.0519	678.5238	673.1633	0.155	0.154
P-525	1.1042	3.1318	8.04		0.2123	46	15	2.4141	46	16	0.1923	679.9894	678.8186	0.298	0.296
P-536	1.1188	3.1733	8.04		0.2122	46	17	2.4296	46	18	0.1896	678.8186	677.316	0.296	0.293
P-538	1.1367	3.2242	8.04		0.2118	46	18	2.464	46	19	0.1863	677.316	675.7856	0.293	0.292
P-739	1.4445	2.6698	9.96		0.1359	46	15	1.668	46	17	0.0941	676.5129	675.89	0.208	0.205
P-737	1.4754	2.7268	9.96		0.1357	46	17	1.4952	42	38	0.0919	675.89	675.3937	0.205	0.402
P-565	1.3565	3.8475	8.04		0.2123	46	15	2.7924	46	15	0.1565	683.7992	681.9225	0.267	0.272
P-569	1.3565	3.8475	8.04		0.2121	46	16	2.7489	46	17	0.1564	681.9225	680.0321	0.272	0.257
P-571	1.4675	4.1623	8.04		0.2119	46	18	4.4619	0	4	0.1444	680.0321	677.8416	0.257	0.256
P-766	2.4801	7.0346	8.04		0.1529	46	15	3.5025	46	15	0.0616	687.0427	682.0119	0.168	0.286
P-768	0.9118	2.5862	8.04		0.1527	46	16	1.8596	46	17	0.1675	682.0119	681.4695	0.286	0.253
P-681	1.0876	3.0847	8.04		0.1526	46	17	6.4102	0	4	0.1403	681.4695	680.5521	0.253	0.317
P-683	0.702	1.9912	8.04		0.1523	46	18	1.5892	46	18	0.217	680.5521	680.1517	0.317	0.316
P-692	1.3671	3.8776	8.04		0.2958	46	16	3.0119	46	16	0.2163	680.1517	677.8727	0.316	0.377
P-693	1.4663	2.71	9.96		0.2955	46	18	1.8786	46	17	0.2015	677.8727	677.1427	0.304	0.569
P-263	1.121	3.1796	8.04		0.1869	46	15	2.3039	46	16	0.1667	689.9995	688.7257	0.283	0.262
P-610	1.2522	3.5516	8.04		0.1867	46	16	2.5369	46	18	0.1491	688.7257	687.413	0.262	0.258
P-611	1.279	3.6278	8.04		0.1865	46	18	3.0921	0	4	0.1458	687.413	686.0925	0.258	0.257
P-833	1.4807	4.1999	8.04		0.1019	46	15	2.4026	46	15	0.0688	700.7288	698.2689	0.177	0.178
P-835	1.4813	4.2015	8.04		0.1018	46	17	2.3999	46	17	0.0687	698.2689	696.0685	0.178	0.177
P-837	1.4882	4.2211	8.04		0.1017	46	18	12.6873	0	4	0.0683	696.0685	693.8585	0.177	0.177
P-841	1.4865	4.2162	8.04		0.1016	46	19	2.1205	46	20	0.0684	693.8585	690.8878	0.177	0.325
P-844	0.9982	2.8311	8.04		0.228	46	17	2.2919	46	16	0.2285	690.8878	690.0092	0.325	0.327
P-845	0.9853	2.7947	8.04		0.2279	46	18	2.2496	46	18	0.2313	690.0092	688.945	0.327	0.351
P-1996	0.8808	2.4982	8.04		0.2279	46	19	2.0836	46	20	0.2587	688.945	688.7293	0.351	0.327
P-864	1.6033	4.5475	8.04		0.2279	46	20	5.2194	0	10	0.1421	687.9806	686.6352	0.255	0.261
P-872	1.5247	4.3246	8.04		0.2278	46	21	3.2967	0	9	0.1494	686.6352	684.6146	0.261	0.261
P-873	2.0906	5.9296	8.04		0.1529	46	15	2.9561	46	15	0.0731	686.5325	684.0083	0.183	0.371
P-876	1.3205	3.7453	8.04		0.379	46	17	3.2021	46	18	0.287	684.0083	682.3599	0.371	0.358
P-881	1.3799	3.9139	8.04		0.3789	46	18	3.3284	46	18	0.2746	682.3599	680.6654	0.358	0.366
P-883	1.3234	3.7536	8.04		0.3789	46	20	3.3562	0	8	0.2863	680.6654	679.1852	0.366	0.366
P-792	0.9153	2.5962	8.04		0.0102	46	17	0.8516	46	16	0.0111	691.2595	689.6624	0.074	0.078
P-788	0.9176	2.6027	8.04		0.0101	46	23	1.8694	0	8	0.011	689.6624	688.4632	0.078	0.065
P-2328	4.0261	11.4195	8.04		0.0068	46	15	4.2587	0	1	0.0017	692.9387	684.061	0.028	0.061
P-786	0.9122	2.5873	8.04		0.0213	46	22	0.7882	46	27	0.0234	683.0904	682.066	0.105	0.307
P-17598	0.8621	2.4452	8.04		0.0035	46	16	0.5501	46	18	0.004	696.8725	696.4262	0.049	0.039
P-17599	1.2023	3.4101	8.04		0.0035	46	19	2.0649	0	4	0.0029	696.4262	695.9372	0.039	0.041
P-17600	1.0386	2.9459	8.04		0.0035	46	22	2.5651	0	19	0.0033	695.9372	694.7468	0.041	0.055
P-17601	1.0499	2.978	8.04		0.0035	46	16	0.6799	46	16	0.0033	695.6371	694.7468	0.04	0.055
P-17602	1.0612	3.0099	8.04		0.0069	46	22	1.2181	0	4	0.0065	694.7468	694.2603	0.055	0.075
P-17604	0.729	2.0677	8.04		0.0069	46	27	1.3937	0	16	0.0095	694.2603	693.7351	0.075	0.052
P-783	0.8808	2.4982	8.04		0.0067	46	18	0.8279	41	35	0.0076	684.061	683.0904	0.061	0.105
P-287	1.4614	4.1449	8.04		0.065	46	16	2.0721	46	16	0.0445	680.5164	677.9153	0.144	0.142
P-1888	1.9056	3.5221	9.96		0.1168	46	16	1.9452	46	16	0.0613	671.5392	670.1608	0.168	0.17
P-1887	1.866	3.4487	9.96		0.1166	46	18	1.9147	46	18	0.0625	670.1608	669.23	0.17	0.169
P-1885	1.396	3.9594	8.04		0	0	0	0	0	0	0	670.11	670.11	0	0
P-1884	1.4066	3.9895	8.04		0	0	0	0	0	0	0	670.11	668.7565	0	0
P-2991	0.8028	2.277	8.04		0	0	0	0	0	0	0	669.4616	669.4616	0	0
P-600	1.9414	3.5882	9.96		0	0	0	0	0	0	0	672.32	672.32	0	0
P-601	1.8314	3.3849	9.96		0	0	0	0	0	0	0	671.5392	671.5392	0	0
P-1059	11.863	4.9321	21		1.8828	46	24	3.6011	46	25	0.1587	669.4616	668.1305	0.269	0.269
P-1060	14.7317	6.1247	21		2.0173	46	24	4.2754	46	25	0.1369	667.6878	667.1228	0.25	0.253
P-1061	14.491	6.0247	21		2.0174	46	25	4.2241	46	26	0.1392	667.1228	666.0855	0.253	0.249
P-1062	14.8742	6.184	21		2.0172	46	26	4.3163	46	26	0.1356	666.0855	664.5545	0.249	0.248
P-1943	0.9226	2.6167	8.04		0.0714	46	15	1.5374	46	15	0.0774	674.646	673.5038	0.188	0.2
P-1944	0.8643	2.4516	8.04		0.0713	46	17	1.444	46	17	0.0825	673.5038	673.2102	0.2	0.179
P-753	0.9328	2.6456	8.04		0.065	46	15	1.5128	46	15	0.0697	674.9996	674.1934	0.179	0.184
P-760	0.9164	2.5994	8.04		0.0648	46	18	1.4633	46	18	0.0707	674.1934	673.2046	0.184	0.171
P-254	2.139	3.9533	9.96		0.1259	46	19	2.146	46	19	0.0589	668.7565	667.5732	0.164	0.172
P-255	1.9378	3.5815	9.96		0.1259	46	21	1.9422	46	22	0.065	667.5732	666.4989	0.172	0.216
P-242	1.4403	4.0851	8.04		0.0779	46	15	2.1787	46	15	0.0541	679.5957	677.5366	0.158	0.159
P-243	1.4437	4.0947	8.04		0.0779	46	17	2.1632	46	18	0.0539	677.5366	675.5239	0.159	0.155
P-244	1.4967	4.245	8.04		0.0778	46	18	3.6456	0	4	0.052	675.5239	673.9833	0.155	0.154
P-1889	2.5618	4.7348	9.96		0.2612	46	19	3.0423	46	20	0.102	666.4989	664.8989	0.216	0.216
P-1890	2.5618	4.7348	9.96		0.2612	46	20	2.8698	46	20	0.102	664.8989	663.37	0.216	0.301
GATE	#	1	Undefnd		2.0172	46	26								
GATE	#	2	Undefnd		0.2612	46	20								

Table 10
1-Year Recurrence Interval Event - Modeling Results - Existing Conditions
Pipe Summary - South Basin

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-993	689	682.09	681.5763	46	15	0	7.4237	12.566	0	0	0
MH-999	683.01	674.01	672.7615	46	21	0	10.2485	12.566	0	0	0
MH-1001	685.92	679.09	678.5342	46	16	0	7.3858	12.566	0	0	0
MH-2496	685.3	676.26	675.4907	46	21	0	9.8093	12.566	0	0	0
MH-2497	687.62	677.79	677.3368	46	18	0	10.2832	12.566	0	0	0
MH-2499	690.87	679.29	678.8398	46	16	0	12.0302	12.566	0	0	0
MH-2507	691.29	680.46	680.0107	46	15	0	11.2793	12.566	0	0	0
MH-2592	687.8	676.5533	676.2755	46	21	0	11.5245	12.566	0	0	0
MH-2594	691.34	678.34	677.2081	46	20	0	14.1319	12.566	0	0	0
MH-2598	693.94	680.53	680.05	46	17	0	13.89	12.566	0	0	0
MH-2599	692.41	682.41	681.9418	46	16	0	10.4682	12.566	0	0	0
MH-2610	692.87	684.29	683.818	46	15	0	9.052	12.566	0	0	0
MH-2630	694	678.4533	678.0113	46	20	0	15.9887	12.566	0	0	0
MH-2631	697.74	686.59	678.8898	46	19	0	18.8502	12.566	0	0	0
MH-2645	683.5	674.7533	674.4326	46	21	0	9.0674	12.566	0	0	0
MH-2707	696.91	687.91	687.431	46	17	0	9.479	12.566	0	0	0
MH-2709	696.97	689.22	688.7442	46	16	0	8.2258	12.566	0	0	0
MH-2743	697.98	690.48	690.0194	46	15	0	7.9606	12.566	0	0	0
MH-2831	685.54	678.45	677.8999	46	18	0	7.6401	12.566	0	0	0
MH-2833	687.69	680.61	680.1745	46	16	0	7.5155	12.566	0	0	0
MH-2835	689.67	681.01	680.575	46	18	0	9.095	12.566	0	0	0
MH-2836	690.3	681.97	681.4872	46	17	0	8.8128	12.566	0	0	0
MH-2839	686.55	676.55	675.9073	46	17	0	10.6427	12.566	0	0	0
MH-2840	683.76	677.17	676.5305	46	15	0	7.2295	12.566	0	0	0
MH-2895	690.15	682.49	682.0321	46	15	0	8.1179	12.566	0	0	0
MH-2898	695.43	687.6	687.054	46	15	0	8.376	12.566	0	0	0
MH-2920	694.86	691.09	682.0881	46	16	0	12.7719	12.566	0	0	0
MH-2921	696.85	689.09	683.0976	46	21	0	13.7524	12.566	0	0	0
MH-2922	702.44	690.28	689.6669	46	21	0	12.7731	12.566	0	0	0
MH-2933	692.47	684.69	684.0652	46	18	0	8.4048	12.566	0	0	0
MH-2939	705.43	695.09	694.4718	46	17	0	10.9582	12.566	0	0	0
MH-2960	699.96	691.88	691.2644	46	16	0	8.6956	12.566	0	0	0
MH-2975	698	680.0467	679.6036	46	20	0	18.3964	12.566	0	0	0
MH-2976	698.01	680.9267	680.4827	46	19	0	17.5273	12.566	0	0	0
MH-2978	698.89	681.7267	681.2831	46	17	0	17.6069	12.566	0	0	0
MH-3072	698.54	689.38	688.9705	46	19	0	9.5695	12.566	0	0	0
MH-3073	700.04	690.46	690.033	46	18	0	10.007	12.566	0	0	0
MH-3074	702.25	691.34	690.9114	46	16	0	11.3386	12.566	0	0	0
MH-3075	706.07	694.41	693.8705	46	19	0	12.1995	12.566	0	0	0
MH-3076	709.37	696.62	696.0806	46	17	0	13.2894	12.566	0	0	0
MH-3078	710	698.82	698.2811	46	16	0	11.7189	12.566	0	0	0
MH-3079	708.94	701.28	700.741	46	15	0	8.199	12.566	0	0	0
MH-3080	693.25	681.09	680.6929	46	19	0	12.5571	12.566	0	0	0
MH-3081	690.5	682.79	682.3866	46	18	0	8.1134	12.566	0	0	0
MH-3082	694.34	685.11	684.0361	46	16	0	10.3039	12.566	0	0	0
MH-3083	695.83	687.08	686.545	46	15	0	9.285	12.566	0	0	0
MH-3086	697.88	687.13	686.6535	46	20	0	11.2265	12.566	0	0	0
MH-3087	698.06	689.18	687.9985	46	19	0	10.0615	12.566	0	0	0
MH-3200	681.42	672.85	671.5981	46	22	0	9.8219	12.566	0	0	0
MH-3204	685.4	672.26	669.5113	46	24	0	15.8887	12.566	0	0	0
MH-3207	684.51	671.75	670.2566	46	23	0	14.2534	12.566	0	0	0
MH-4634	701.25	693.59	692.9412	46	15	0	8.3088	12.566	0	0	0
MH-16260	705.51	694.88	694.2651	46	26	0	11.2449	12.566	0	0	0
MH-16261	706.26	695.38	694.7517	46	21	0	11.5083	12.566	0	0	0
MH-16262	705.11	696.28	695.6393	46	16	0	9.4707	12.566	0	0	0
MH-16263	706.02	696.58	695.9393	46	21	0	10.0807	12.566	0	0	0
MH-16264	706.73	697.07	696.4286	46	18	0	10.3014	12.566	0	0	0
MH-16265	707.89	697.51	696.8755	46	16	0	11.0145	12.566	0	0	0
MH-16266	706.71	694.37	691.7308	46	22	0	14.9792	12.566	0	0	0
MH-635	676.2	669.92	668.803	46	16	0	7.397	12.566	0	0	0
MH-1005	682.65	678.49	671.5532	46	16	0	11.0968	12.566	0	0	0
MH-1006	689.42	681.09	680.5258	46	15	0	8.8942	12.566	0	0	0
MH-2646	683.4	673.15	672.32	0	0	0	11.08	12.566	0	0	0
MH-4319	679	670.79	670.11	0	0	0	8.89	12.566	0	0	0
MH-4320	683	672.44	671.59	0	0	0	11.41	12.566	0	0	0
MH-4321	677.62	670.85	670.175	46	17	0	7.445	12.566	0	0	0
MH-604	685.1	674.55	666.5398	46	17	0	18.5602	12.566	0	0	0
MH-634	679	668.26	667.6222	46	17	0	11.3778	12.566	0	0	0
MH-2841	678	673.76	667.7336	46	24	0	10.2664	12.566	0	0	0
MH-2842	679.5	674.74	674.2057	46	17	0	5.2943	12.566	0	0	0
MH-2843	682.25	675.55	675.0118	46	15	0	7.2382	12.566	0	0	0
MH-3208	680	665.87	664.3601	46	25	0	15.6399	12.566	0	0	0
MH-3209	679	667.4	666.1307	46	25	0	12.8693	12.566	0	0	0
MH-3210	678	668.43	667.1691	46	24	0	10.8309	12.566	0	0	0
MH-4343	678	674.04	673.5168	46	17	0	4.4832	12.566	0	0	0
MH-4344	684.5	675.19	674.6588	46	15	0	9.8412	12.566	0	0	0
MH-602	675.4	663.95	663.37	0	0	0	12.03	12.566	0	0	0
MH-603	680	665.55	664.9397	46	18	0	15.0603	12.566	0	0	0
MH-621	687.5	676.09	675.5342	46	17	0	11.9658	12.566	0	0	0
MH-622	690	678.1	677.5471	46	16	0	12.4529	12.566	0	0	0
MH-624	690	680.16	679.6063	46	15	0	10.3937	12.566	0	0	0

Table 10
1-Year Recurrence Interval Event - Modeling Results - Existing Conditions
Pipe Summary - South Basin

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Proposed Pipe Diameter (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends Upstream (ft)	Maximum Water Elevation at Pipe Ends Downstream (ft)	Ratio d/D US	Ratio d/D DS
P-795	1.0234	2.9026	8.04		0.0117	46	17	0.9403	46	17	0.0115	694.4718	693.1673	0.077	0.071
P-796	0.9213	2.6131	8.04		0.02	46	23	1.0119	46	23	0.0217	691.7308	690.4823	0.106	0.093
P-797	0.8878	2.5434	8		0.2208	46	16	2.097	46	17	0.2487	682.0881	681.2831	0.342	0.335
P-798	0.9147	2.6205	8		0.2207	46	18	2.1547	46	19	0.2413	681.2831	680.4827	0.335	0.334
P-799	0.9158	2.6236	8		0.2206	46	19	2.2142	0	8	0.2409	680.4827	679.6036	0.334	0.335
P-800	0.9085	2.6023	8.0004		0.2204	46	21	2.4288	0	15	0.2427	679.6036	678.8898	0.335	0.6
P-587	1.9652	3.6035	9.9996		0.9074	46	20	3.5179	46	20	0.4617	678.8898	678.0113	0.48	0.47
P-589	2.0335	3.7287	9.9996		0.9073	46	20	3.7793	0	12	0.4462	678.0113	677.2081	0.47	0.646
P-591	2.0402	3.7408	9.9996		1.5227	46	20	4.0744	46	21	0.7464	677.2081	676.2755	0.646	0.667
P-592	1.9969	3.6613	10		1.5226	46	21	3.8531	46	22	0.7625	676.2755	675.4907	0.667	0.817
P-594	1.9574	3.5888	10		1.9429	46	21	4.1342	46	22	0.9926	675.4907	674.4326	0.829	0.615
P-596	2.8093	5.1511	9.9996		1.9429	46	22	5.5366	46	22	0.6916	674.4326	672.7615	0.615	0.602
P-1055	12.484	5.1902	21		2.2353	46	22	3.9244	46	23	0.1791	672.7615	671.6009	0.287	0.286
P-1056	12.1716	5.0604	21		2.2352	46	23	3.8528	46	24	0.1836	671.5981	670.5072	0.29	0.29
P-1057	12.7218	5.2891	21		2.2352	46	23	3.979	46	24	0.1757	670.2566	669.5362	0.284	0.284
P-281	1.5457	4.3841	8.04		0.1548	46	15	2.5684	46	16	0.1001	681.5763	678.5342	0.233	0.17
P-282	2.4502	6.9497	8.04		0.1546	46	16	3.8681	46	16	0.0631	678.5342	673.1735	0.17	0.169
P-525	1.1042	3.1318	8.04		0.2581	46	15	2.5515	46	16	0.2338	680.0107	678.8398	0.329	0.328
P-536	1.1188	3.1733	8.04		0.2579	46	17	2.5676	46	18	0.2305	678.8398	677.3368	0.328	0.324
P-538	1.1367	3.2242	8.04		0.2574	46	18	2.6058	46	19	0.2265	677.3368	675.8067	0.324	0.323
P-739	1.4445	2.6698	9.96		0.1652	46	15	1.7659	46	16	0.1143	676.5305	675.9073	0.229	0.226
P-737	1.4754	2.7268	9.96		0.1649	46	17	1.55	42	35	0.1118	675.9073	675.4907	0.226	0.519
P-565	1.3565	3.8475	8.04		0.2581	46	15	2.952	46	15	0.1903	683.818	681.9418	0.296	0.301
P-569	1.3565	3.8475	8.04		0.2579	46	16	2.9058	46	17	0.1901	681.9418	680.05	0.301	0.284
P-571	1.4675	4.1623	8.04		0.2576	46	17	4.4619	0	4	0.1755	680.05	677.8599	0.284	0.283
P-766	2.4801	7.0346	8.04		0.1858	46	15	3.7092	46	15	0.0749	687.054	682.0321	0.185	0.316
P-768	0.9118	2.5862	8.04		0.1856	46	16	1.9688	46	16	0.2036	682.0321	681.4872	0.317	0.279
P-681	1.0876	3.0847	8.04		0.1855	46	17	6.4102	0	4	0.1706	681.4872	680.575	0.279	0.351
P-683	0.702	1.9912	8.04		0.1852	46	18	1.6784	46	18	0.2638	680.575	680.1745	0.351	0.35
P-692	1.3671	3.8776	8.04		0.3596	46	16	3.1826	46	16	0.263	680.1745	677.8999	0.35	0.418
P-693	1.4663	2.71	9.96		0.3593	46	18	1.9796	46	17	0.245	677.8999	677.2081	0.337	0.648
P-263	1.121	3.1796	8.04		0.2271	46	15	2.4364	46	16	0.2026	690.0194	688.7442	0.313	0.29
P-610	1.2522	3.5516	8.04		0.227	46	16	2.6827	46	17	0.1813	688.7442	687.431	0.29	0.285
P-611	1.279	3.6278	8.04		0.2268	46	18	3.0921	0	4	0.1773	687.431	686.1108	0.285	0.285
P-833	1.4807	4.1999	8.04		0.1238	46	15	2.5475	46	15	0.0836	700.7409	698.2811	0.195	0.196
P-835	1.4813	4.2015	8.04		0.1237	46	16	2.5447	46	17	0.0835	698.281	696.0806	0.196	0.195
P-837	1.4882	4.2211	8.04		0.1237	46	18	12.6873	0	4	0.0831	696.0806	693.8705	0.195	0.195
P-841	1.4865	4.2162	8.04		0.1235	46	19	2.2465	46	19	0.0831	693.8705	690.9114	0.195	0.36
P-844	0.9982	2.8311	8.04		0.2773	46	17	2.4208	46	16	0.2778	690.9114	690.033	0.36	0.363
P-845	0.9853	2.7947	8.04		0.2771	46	18	2.3764	46	18	0.2812	690.033	688.9705	0.363	0.389
P-1996	0.8808	2.4982	8.04		0.277	46	19	2.2044	46	20	0.3146	688.9705	688.7528	0.389	0.362
P-864	1.6033	4.5475	8.04		0.277	46	20	5.2194	0	10	0.1728	687.9985	686.6535	0.281	0.289
P-872	1.5247	4.3246	8.04		0.277	46	21	3.2967	0	9	0.1817	686.6535	684.6332	0.289	0.288
P-873	2.0906	5.9296	8.04		0.1858	46	15	3.131	46	15	0.0889	686.545	684.0361	0.202	0.412
P-876	1.3205	3.7453	8.04		0.4608	46	17	3.3778	46	18	0.349	684.0361	682.3866	0.412	0.398
P-881	1.3799	3.9139	8.04		0.4607	46	18	3.5106	46	18	0.3339	682.3866	680.6929	0.398	0.407
P-883	1.3234	3.7536	8.04		0.4607	46	20	3.4144	46	20	0.3481	680.6929	679.2127	0.407	0.407
P-792	0.9153	2.5962	8.04		0.0124	46	17	0.9136	46	17	0.0136	691.2644	689.6669	0.081	0.085
P-788	0.9176	2.6027	8.04		0.0123	46	22	1.8694	0	8	0.0135	689.6669	688.4688	0.085	0.073
P-2328	4.0261	11.4195	8.04		0.0082	46	15	4.2587	0	1	0.002	692.9412	684.0652	0.032	0.067
P-786	0.9122	2.5873	8.04		0.026	46	21	0.8368	46	26	0.0285	683.0976	682.0881	0.116	0.34
P-17598	0.8621	2.4452	8.04		0.0042	46	16	0.5826	46	17	0.0049	696.8755	696.4286	0.053	0.043
P-17599	1.2023	3.4101	8.04		0.0042	46	18	2.0649	0	4	0.0035	696.4286	695.9393	0.043	0.044
P-17600	1.0386	2.9459	8.04		0.0042	46	21	2.5651	0	19	0.004	695.9393	694.7517	0.044	0.062
P-17601	1.0499	2.978	8.04		0.0042	46	16	0.7165	46	16	0.004	695.6393	694.7517	0.044	0.062
P-17602	1.0612	3.0099	8.04		0.0084	46	22	1.2181	0	4	0.0079	694.7517	694.2651	0.062	0.082
P-17604	0.729	2.0677	8.04		0.0084	46	26	1.3937	0	16	0.0115	694.2651	693.7388	0.082	0.058
P-783	0.8808	2.4982	8.04		0.0082	46	18	0.6967	46	17	0.0093	684.0652	683.0976	0.067	0.116
P-287	1.4614	4.1449	8.04		0.079	46	16	2.2083	46	16	0.054	680.5258	677.9256	0.158	0.158
P-1888	1.9056	3.5221	9.96		0.142	46	16	2.06	46	16	0.0745	671.5532	670.175	0.185	0.187
P-1887	1.866	3.4487	9.96		0.1418	46	18	2.0281	46	18	0.076	670.175	669.244	0.187	0.186
P-1885	1.396	3.9594	8.04		0	0	0	0	0	0	0	670.11	670.11	0	0
P-1884	1.4066	3.9895	8.04		0	0	0	0	0	0	0	670.11	668.803	0	0
P-2991	0.8028	2.277	8.04		0	0	0	0	0	0	0	669.5113	669.5113	0	0
P-600	1.9414	3.5882	9.96		0	0	0	0	0	0	0	672.32	672.32	0	0
P-601	1.8314	3.3849	9.96		0	0	0	0	0	0	0	671.5532	671.5532	0	0
P-1059	11.863	4.9321	21		2.289	46	24	3.8069	46	25	0.193	669.5113	668.1801	0.298	0.297
P-1060	14.7317	6.1247	21		2.4523	46	24	4.522	46	25	0.1665	667.7336	667.1691	0.276	0.279
P-1061	14.491	6.0247	21		2.4524	46	24	4.471	46	26	0.1692	667.1691	666.1307	0.279	0.275
P-1062	14.8742	6.184	21		2.4522	46	25	4.567	46	26	0.1649	666.1307	664.6001	0.275	0.274
P-1943	0.9226	2.6167	8.04		0.0868	46	15	1.6296	46	15	0.0941	674.6588	673.5168	0.207	0.219
P-1944	0.8643	2.4516	8.04		0.0867	46	17	1.5331	46	17	0.1003	673.5168	673.2236	0.219	0.199
P-753	0.9328	2.6456	8.04		0.079	46	15	1.6047	46	15	0.0847	675.0118	674.2057	0.197	0.203
P-760	0.9164	2.5994	8.04		0.0788	46	17	1.5552	46	18	0.086	674.2057	673.2168	0.203	0.189
P-254	2.139	3.9533	9.96		0.2282	46	16	2.5557	46	16	0.1067	668.803	667.6222	0.22	0.232
P-255	1.9378	3.5815	9.96		0.2282	46	18	2.3518	46	18	0.1177	667.6222	666.5398	0.232	0.265
P-242	1.4403	4.0851	8.04		0.0948	46	15	2.3043	46	15	0.0658	679.6063	677.5471	0.174	0.175
P-243	1.4437	4.0947	8.04		0.0947	46	16	2.2905	46	18	0.0656	677.5471	675.5342	0.175	0.171
P-244	1.4967	4.245	8.04		0.0946	46	18	3.6456	0	4	0.0632	675.5342	673.9936	0.171	0.17
P-1889	2.5618	4.7348	9.96		0.3933	46	17	3.4259	46	18	0.1535	666.5398	664.9397	0.265	0.265
P-1890	2.5618	4.7348	9.96		0.3933	46	18	3.3595	46	18	0.1535	664.9397	663.37	0.265	0.301
GATE	#	1	Undefnd		2.4523	46	25								
GATE	#	2	Undefnd		0.3932	46	18								

Table 11
2-Year Recurrence Interval Event - Modeling Results - Existing Conditions
Pipe Summary - South Basin

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-993	689	682.09	681.5931	46	15	0	7.4069	12.566	0	0	0
MH-999	683.01	674.01	672.8157	46	22	0	10.1943	12.566	0	0	0
MH-1001	685.92	679.09	678.5463	46	16	0	7.3737	12.566	0	0	0
MH-2496	685.3	676.26	675.7995	46	24	0	9.5005	12.566	0	0	0
MH-2497	687.62	677.79	677.3615	46	18	0	10.2585	12.566	0	0	0
MH-2499	690.87	679.29	678.8649	46	16	0	12.0051	12.566	0	0	0
MH-2507	691.29	680.46	680.0359	46	15	0	11.2541	12.566	0	0	0
MH-2592	687.8	676.5533	676.5	46	23	0	11.3	12.566	0	0	0
MH-2594	691.34	678.34	677.3198	46	22	0	14.0202	12.566	0	0	0
MH-2598	693.94	680.53	680.0712	46	17	0	13.8688	12.566	0	0	0
MH-2599	692.41	682.41	681.9644	46	15	0	10.4456	12.566	0	0	0
MH-2610	692.87	684.29	683.8402	46	15	0	9.0298	12.566	0	0	0
MH-2630	694	678.4533	678.0664	46	20	0	15.9336	12.566	0	0	0
MH-2631	697.74	686.59	678.9402	46	19	0	18.7998	12.566	0	0	0
MH-2645	683.5	674.7533	674.5153	46	25	0	8.9847	12.566	0	0	0
MH-2707	696.91	687.91	687.4523	46	17	0	9.4577	12.566	0	0	0
MH-2709	696.97	689.22	688.7659	46	16	0	8.2041	12.566	0	0	0
MH-2743	697.98	690.48	690.0429	46	15	0	7.9371	12.566	0	0	0
MH-2831	685.54	678.45	677.9321	46	18	0	7.6079	12.566	0	0	0
MH-2833	687.69	680.61	680.2018	46	16	0	7.4882	12.566	0	0	0
MH-2835	689.67	681.01	680.6023	46	18	0	9.0677	12.566	0	0	0
MH-2836	690.3	681.97	681.508	46	16	0	8.792	12.566	0	0	0
MH-2839	686.55	676.55	675.9422	46	24	0	10.6078	12.566	0	0	0
MH-2840	683.76	677.17	676.5496	46	15	0	7.2104	12.566	0	0	0
MH-2895	690.15	682.49	682.0557	46	15	0	8.0943	12.566	0	0	0
MH-2898	695.43	687.6	687.0672	46	15	0	8.3628	12.566	0	0	0
MH-2920	694.86	691.09	682.1144	46	15	0	12.7456	12.566	0	0	0
MH-2921	696.85	689.09	683.1056	46	21	0	13.7444	12.566	0	0	0
MH-2922	702.44	690.28	689.6721	46	21	0	12.7679	12.566	0	0	0
MH-2933	692.47	684.69	684.0702	46	17	0	8.3998	12.566	0	0	0
MH-2939	705.43	695.09	694.4764	46	16	0	10.9536	12.566	0	0	0
MH-2960	699.96	691.88	691.2697	46	16	0	8.6903	12.566	0	0	0
MH-2975	698	680.0467	679.6294	46	20	0	18.3706	12.566	0	0	0
MH-2976	698.01	680.9267	680.5083	46	19	0	17.5017	12.566	0	0	0
MH-2978	698.89	681.7267	681.3088	46	17	0	17.5812	12.566	0	0	0
MH-3072	698.54	689.38	689.001	46	19	0	9.539	12.566	0	0	0
MH-3073	700.04	690.46	690.0616	46	18	0	9.9784	12.566	0	0	0
MH-3074	702.25	691.34	690.9397	46	16	0	11.3103	12.566	0	0	0
MH-3075	706.07	694.41	693.8844	46	18	0	12.1856	12.566	0	0	0
MH-3076	709.37	696.62	696.0944	46	17	0	13.2756	12.566	0	0	0
MH-3078	710	698.82	698.295	46	16	0	11.705	12.566	0	0	0
MH-3079	708.94	701.28	700.7549	46	15	0	8.1851	12.566	0	0	0
MH-3080	693.25	681.09	680.7261	46	19	0	12.5239	12.566	0	0	0
MH-3081	690.5	682.79	682.4189	46	18	0	8.0811	12.566	0	0	0
MH-3082	694.34	685.11	684.0697	46	16	0	10.2703	12.566	0	0	0
MH-3083	695.83	687.08	686.5593	46	15	0	9.2707	12.566	0	0	0
MH-3086	697.88	687.13	686.675	46	20	0	11.205	12.566	0	0	0
MH-3087	698.06	689.18	688.0195	46	19	0	10.0405	12.566	0	0	0
MH-3200	681.42	672.85	671.6531	46	23	0	9.7669	12.566	0	0	0
MH-3204	685.4	672.26	669.568	46	24	0	15.832	12.566	0	0	0
MH-3207	684.51	671.75	670.3102	46	23	0	14.1998	12.566	0	0	0
MH-4634	701.25	693.59	692.9441	46	15	0	8.3059	12.566	0	0	0
MH-16260	705.51	694.88	694.2701	46	25	0	11.2399	12.566	0	0	0
MH-16261	706.26	695.38	694.7547	46	21	0	11.5053	12.566	0	0	0
MH-16262	705.11	696.28	695.6421	46	16	0	9.4679	12.566	0	0	0
MH-16263	706.02	696.58	695.9422	46	20	0	10.0778	12.566	0	0	0
MH-16264	706.73	697.07	696.4312	46	18	0	10.2988	12.566	0	0	0
MH-16265	707.89	697.51	696.879	46	16	0	11.011	12.566	0	0	0
MH-16266	706.71	694.37	691.738	46	22	0	14.972	12.566	0	0	0
MH-635	676.2	669.92	668.8228	46	16	0	7.3772	12.566	0	0	0
MH-1005	682.65	678.49	671.5696	46	15	0	11.0804	12.566	0	0	0
MH-1006	689.42	681.09	680.537	46	15	0	8.883	12.566	0	0	0
MH-2646	683.4	673.15	672.32	0	0	0	11.08	12.566	0	0	0
MH-4319	679	670.79	670.11	0	0	0	8.89	12.566	0	0	0
MH-4320	683	672.44	671.59	0	0	0	11.41	12.566	0	0	0
MH-4321	677.62	670.85	670.1913	46	17	0	7.4287	12.566	0	0	0
MH-604	685.1	674.55	666.5641	46	17	0	18.5359	12.566	0	0	0
MH-634	679	668.26	667.6431	46	17	0	11.3569	12.566	0	0	0
MH-2841	678	673.76	667.7859	46	23	0	10.2141	12.566	0	0	0
MH-2842	679.5	674.74	674.2198	46	17	0	5.2802	12.566	0	0	0
MH-2843	682.25	675.55	675.0258	46	15	0	7.2242	12.566	0	0	0
MH-3208	680	665.87	664.4116	46	25	0	15.5884	12.566	0	0	0
MH-3209	679	667.4	666.1827	46	25	0	12.8173	12.566	0	0	0
MH-3210	678	668.43	667.2217	46	23	0	10.7783	12.566	0	0	0
MH-4343	678	674.04	673.5325	46	17	0	4.4675	12.566	0	0	0
MH-4344	684.5	675.19	674.6737	46	15	0	9.8263	12.566	0	0	0
MH-602	675.4	663.95	663.37	0	0	0	12.03	12.566	0	0	0
MH-603	680	665.55	664.964	46	18	0	15.036	12.566	0	0	0
MH-621	687.5	676.09	675.5463	46	17	0	11.9537	12.566	0	0	0
MH-622	690	678.1	677.5596	46	16	0	12.4404	12.566	0	0	0
MH-624	690	680.16	679.6187	46	15	0	10.3813	12.566	0	0	0

Table 11
2-Year Recurrence Interval Event - Modeling Results - Existing Conditions
Pipe Summary - South Basin

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Proposed Pipe Diameter (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends Upstream (ft)	Maximum Water Elevation at Pipe Ends Downstream (ft)	Ratio d/D US	Ratio d/D DS
P-795	1.0234	2.9026	8.04		0.0144	46	17	1.0138	46	17	0.0141	694.4764	693.1738	0.084	0.08
P-796	0.9213	2.6131	8.04		0.0245	46	22	1.0817	46	22	0.0266	691.738	690.4892	0.116	0.103
P-797	0.8878	2.5434	8		0.2709	46	16	2.2196	46	17	0.3052	682.1144	681.3088	0.382	0.373
P-798	0.9147	2.6205	8		0.2708	46	18	2.2807	46	19	0.2961	681.3088	680.5083	0.373	0.372
P-799	0.9158	2.6236	8		0.2707	46	19	2.2825	46	19	0.2956	680.5083	679.6294	0.372	0.374
P-800	0.9085	2.6023	8.0004		0.2705	46	20	2.4288	0	15	0.2978	679.6294	678.9402	0.374	0.675
P-587	1.9652	3.6035	9.9996		1.1137	46	19	3.7092	46	20	0.5667	678.9402	678.0664	0.54	0.536
P-589	2.0335	3.7287	9.9996		1.1135	46	20	3.7793	0	12	0.5476	678.0664	677.3198	0.536	0.78
P-591	2.0402	3.7408	9.9996		1.8648	46	20	4.1399	45	22	0.9141	677.3198	676.5	0.78	0.936
P-592	1.9969	3.6613	10		1.8609	46	22	3.8691	44	54	0.9319	676.5	675.7995	0.936	1.187
P-594	1.9574	3.5888	10		2.3697	46	24	4.303	46	24	1.2107	675.7995	674.5153	1.199	0.714
P-596	2.8093	5.1511	9.9996		2.3697	46	25	5.7276	46	23	0.8435	674.5153	672.8157	0.714	0.667
P-1055	12.484	5.1902	21		2.7268	46	22	4.1526	46	23	0.2184	672.8157	671.6554	0.318	0.317
P-1056	12.1716	5.0604	21		2.7268	46	23	4.0779	46	24	0.224	671.6531	670.5629	0.322	0.322
P-1057	12.7218	5.2891	21		2.7268	46	24	4.2088	46	24	0.2143	670.3102	669.5898	0.314	0.314
P-281	1.5457	4.3841	8.04		0.1899	46	15	2.7265	46	16	0.1228	681.5931	678.5463	0.258	0.188
P-282	2.4502	6.9497	8.04		0.1897	46	16	4.1097	46	16	0.0774	678.5463	673.1855	0.188	0.187
P-525	1.1042	3.1318	8.04		0.3167	46	15	2.701	46	16	0.2868	680.0359	678.8649	0.367	0.365
P-536	1.1188	3.1733	8.04		0.3164	46	16	2.7183	46	18	0.2828	678.8649	677.3615	0.365	0.36
P-538	1.1367	3.2242	8.04		0.3159	46	18	2.7595	46	18	0.2779	677.3615	675.8314	0.36	0.36
P-739	1.4445	2.6698	9.96		0.2026	46	15	1.8771	46	15	0.1403	676.5496	675.9422	0.252	0.268
P-737	1.4754	2.7268	9.96		0.2	46	16	1.607	42	32	0.1356	675.9422	675.7995	0.268	0.891
P-565	1.3565	3.8475	8.04		0.3166	46	15	3.1277	46	15	0.2334	683.8402	681.9644	0.329	0.335
P-569	1.3565	3.8475	8.04		0.3164	46	16	3.0798	46	17	0.2332	681.9644	680.0712	0.335	0.315
P-571	1.4675	4.1623	8.04		0.3161	46	17	4.4619	0	4	0.2154	680.0712	677.881	0.315	0.315
P-766	2.4801	7.0346	8.04		0.228	46	15	3.9413	46	15	0.0919	687.0672	682.0557	0.205	0.352
P-768	0.9118	2.5862	8.04		0.2277	46	16	2.0882	46	16	0.2498	682.0557	681.508	0.352	0.31
P-681	1.0876	3.0847	8.04		0.2276	46	16	6.4102	0	4	0.2093	681.508	680.6023	0.31	0.392
P-683	0.702	1.9912	8.04		0.2272	46	18	1.7754	46	18	0.3237	680.6023	680.2018	0.392	0.391
P-692	1.3671	3.8776	8.04		0.4413	46	16	3.3689	46	16	0.3228	680.2018	677.9321	0.391	0.466
P-693	1.4663	2.71	9.96		0.4409	46	18	2.0744	46	16	0.3007	677.9321	677.3198	0.376	0.783
P-263	1.121	3.1796	8.04		0.2786	46	15	2.5821	46	16	0.2486	690.0429	688.7659	0.348	0.322
P-610	1.2522	3.5516	8.04		0.2785	46	16	2.8434	46	17	0.2224	688.7659	687.4523	0.322	0.317
P-611	1.279	3.6278	8.04		0.2782	46	17	3.0921	0	4	0.2175	687.4523	686.1322	0.317	0.317
P-833	1.4807	4.1999	8.04		0.1519	46	15	2.7035	46	15	0.1026	700.7549	698.295	0.216	0.216
P-835	1.4813	4.2015	8.04		0.1518	46	16	2.7007	46	17	0.1025	698.295	696.0944	0.216	0.216
P-837	1.4882	4.2211	8.04		0.1517	46	17	12.6873	0	4	0.102	696.0944	693.8844	0.216	0.216
P-841	1.4865	4.2162	8.04		0.1516	46	18	2.3823	46	19	0.102	693.8844	690.9397	0.216	0.403
P-844	0.9982	2.8311	8.04		0.3403	46	16	2.5593	46	16	0.3409	690.9397	690.0616	0.403	0.405
P-845	0.9853	2.7947	8.04		0.3401	46	18	2.513	46	18	0.3452	690.0616	689.001	0.405	0.434
P-1996	0.8808	2.4982	8.04		0.34	46	19	2.3369	46	19	0.3861	689.001	688.7801	0.434	0.403
P-864	1.6033	4.5475	8.04		0.34	46	19	5.2194	0	10	0.2121	688.0195	686.675	0.313	0.321
P-872	1.5247	4.3246	8.04		0.34	46	20	3.4805	46	21	0.223	686.675	684.655	0.321	0.321
P-873	2.0906	5.9296	8.04		0.228	46	15	3.3172	46	15	0.1091	686.5593	684.0697	0.223	0.462
P-876	1.3205	3.7453	8.04		0.5657	46	17	3.567	46	18	0.4284	684.0697	682.4189	0.462	0.446
P-881	1.3799	3.9139	8.04		0.5656	46	18	3.7069	46	18	0.4099	682.4189	680.7261	0.446	0.457
P-883	1.3234	3.7536	8.04		0.5655	46	19	3.6039	46	20	0.4273	680.7261	679.2458	0.457	0.456
P-792	0.9153	2.5962	8.04		0.0152	46	16	0.9685	46	17	0.0167	691.2697	689.6721	0.089	0.093
P-788	0.9176	2.6027	8.04		0.0151	46	22	1.8694	0	8	0.0165	689.6721	688.4749	0.093	0.082
P-2328	4.0261	11.4195	8.04		0.0101	46	15	4.2587	0	1	0.0025	692.9441	684.0702	0.036	0.075
P-786	0.9122	2.5873	8.04		0.0319	46	21	0.8883	46	25	0.0349	683.1056	682.1144	0.128	0.38
P-17598	0.8621	2.4452	8.04		0.0052	46	16	0.6192	46	17	0.006	696.879	696.4312	0.058	0.047
P-17599	1.2023	3.4101	8.04		0.0052	46	18	2.0649	0	4	0.0043	696.4312	695.9422	0.047	0.048
P-17600	1.0386	2.9459	8.04		0.0051	46	21	2.5651	0	19	0.005	695.9422	694.7547	0.048	0.067
P-17601	1.0499	2.978	8.04		0.0052	46	16	0.759	46	16	0.0049	695.6421	694.7547	0.048	0.067
P-17602	1.0612	3.0099	8.04		0.0103	46	21	1.2181	0	4	0.0097	694.7547	694.2701	0.067	0.09
P-17604	0.729	2.0677	8.04		0.0102	46	25	1.3937	0	16	0.014	694.2701	693.7435	0.09	0.065
P-783	0.8808	2.4982	8.04		0.0101	46	18	0.7448	46	17	0.0114	684.0702	683.1056	0.075	0.128
P-287	1.4614	4.1449	8.04		0.0969	46	15	2.3398	46	16	0.0663	680.537	677.9362	0.175	0.173
P-1888	1.9056	3.5221	9.96		0.1742	46	16	2.1902	46	16	0.0914	671.5696	670.1913	0.204	0.206
P-1887	1.866	3.4487	9.96		0.174	46	17	2.1577	46	18	0.0932	670.1913	669.2609	0.206	0.206
P-1885	1.396	3.9594	8.04		0	0	0	0	0	0	0	670.11	670.11	0	0
P-1884	1.4066	3.9895	8.04		0	0	0	0	0	0	0	670.11	668.8228	0	0
P-2991	0.8028	2.277	8.04		0	0	0	0	0	0	0	669.568	669.568	0	0
P-600	1.9414	3.5882	9.96		0	0	0	0	0	0	0	672.32	672.32	0	0
P-601	1.8314	3.3849	9.96		0	0	0	0	0	0	0	671.5696	671.5696	0	0
P-1059	11.863	4.9321	21		2.7929	46	25	4.0281	46	25	0.2354	669.568	668.2373	0.33	0.33
P-1060	14.7317	6.1247	21		2.9932	46	24	4.7825	46	24	0.2032	667.7859	667.2217	0.306	0.31
P-1061	14.491	6.0247	21		2.9933	46	24	4.7309	46	25	0.2066	667.2217	666.1827	0.31	0.304
P-1062	14.8742	6.184	21		2.9932	46	25	4.8309	46	26	0.2012	666.1827	664.6516	0.304	0.304
P-1943	0.9226	2.6167	8.04		0.1065	46	15	1.7302	46	15	0.1155	674.6737	673.5325	0.229	0.242
P-1944	0.8643	2.4516	8.04		0.1063	46	17	1.6309	46	17	0.123	673.5325	673.2378	0.242	0.221
P-753	0.9328	2.6456	8.04		0.097	46	15	1.7031	46	15	0.104	675.0258	674.2198	0.218	0.224
P-760	0.9164	2.5994	8.04		0.0966	46	17	1.6536	46	18	0.1054	674.2198	673.2308	0.224	0.21
P-254	2.139	3.9533	9.96		0.2801	46	16	2.7139	46	16	0.1309	668.8228	667.6431	0.244	0.257
P-255	1.9378	3.5815	9.96		0.28	46	17	2.4944	46	18	0.1445	667.6431	666.5641	0.257	0.294
P-242	1.4403	4.0851	8.04		0.1163	46	15	2.4491	46	15	0.0807	679.6187	677.5596	0.192	0.193
P-243	1.4437	4.0947	8.04		0.1162	46	16	2.4346	46	18	0.0805	677.5596	675.5463	0.193	0.189
P-244	1.4967	4.245	8.04		0.116	46	17	3.6456	0	4	0.0775	675.5463	674.0056	0.189	0.188
P-1889	2.5618	4.7348	9.96		0.4827	46	17	3.6322	46	18	0.1884	666.5641	664.964	0.294	0.294
P-1890	2.5618	4.7348	9.96		0.4826	46	18	3.6197	46	18	0.1884	664.964	663.37	0.294	0.301
GATE	1	Undefnd	Undefnd			46	25								
GATE	2	Undefnd	Undefnd			46	18								

Table 12
5-Year Recurrence Interval Event - Modeling Results - Existing Conditions
Pipe Summary - South Basin

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-993	689	682.09	681.6099	46	15	0	7.3901	12.566	0	0	0
MH-999	683.01	674.01	672.8677	46	24	0	10.1423	12.566	0	0	0
MH-1001	685.92	679.09	678.5581	46	16	0	7.3619	12.566	0	0	0
MH-2496	685.3	676.26	676.3956	46	27	0.1356	8.9044	12.566	0	0	0
MH-2497	687.62	677.79	677.3865	46	17	0	10.2335	12.566	0	0	0
MH-2499	690.87	679.29	678.8902	46	16	0	11.9798	12.566	0	0	0
MH-2507	691.29	680.46	680.0616	46	15	0	11.2284	12.566	0	0	0
MH-2592	687.8	676.5533	677.4883	46	27	0.9349	10.3117	12.566	0	0	0
MH-2594	691.34	678.34	678.5785	46	27	0.2385	12.7615	12.566	0	0	0
MH-2598	693.94	680.53	680.0924	46	16	0	13.8476	12.566	0	0	0
MH-2599	692.41	682.41	681.9871	46	15	0	10.4229	12.566	0	0	0
MH-2610	692.87	684.29	683.8625	46	15	0	9.0075	12.566	0	0	0
MH-2630	694	678.4533	678.9722	46	27	0.5189	15.0278	12.566	0	0	0
MH-2631	697.74	686.59	679.3555	46	27	0	18.3845	12.566	0	0	0
MH-2645	683.5	674.7533	674.6165	46	27	0	8.8835	12.566	0	0	0
MH-2707	696.91	687.91	687.4737	46	17	0	9.4363	12.566	0	0	0
MH-2709	696.97	689.22	688.7876	46	16	0	8.1824	12.566	0	0	0
MH-2743	697.98	690.48	690.0667	46	15	0	7.9133	12.566	0	0	0
MH-2831	685.54	678.45	678.696	46	26	0.246	6.844	12.566	0	0	0
MH-2833	687.69	680.61	680.2373	46	18	0	7.4527	12.566	0	0	0
MH-2835	689.67	681.01	680.6304	46	18	0	9.0396	12.566	0	0	0
MH-2836	690.3	681.97	681.5288	46	16	0	8.7712	12.566	0	0	0
MH-2839	686.55	676.55	676.4109	46	27	0	10.1391	12.566	0	0	0
MH-2840	683.76	677.17	676.583	46	23	0	7.177	12.566	0	0	0
MH-2895	690.15	682.49	682.0796	46	15	0	8.0704	12.566	0	0	0
MH-2898	695.43	687.6	687.0802	46	15	0	8.3498	12.566	0	0	0
MH-2920	694.86	691.09	682.1411	46	15	0	12.7189	12.566	0	0	0
MH-2921	696.85	689.09	683.1134	46	20	0	13.7366	12.566	0	0	0
MH-2922	702.44	690.28	689.6778	46	21	0	12.7622	12.566	0	0	0
MH-2933	692.47	684.69	684.0749	46	17	0	8.3951	12.566	0	0	0
MH-2939	705.43	695.09	694.4814	46	16	0	10.9486	12.566	0	0	0
MH-2960	699.96	691.88	691.2753	46	16	0	8.6847	12.566	0	0	0
MH-2975	698	680.0467	679.6878	46	27	0	18.3122	12.566	0	0	0
MH-2976	698.01	680.9267	680.5343	46	19	0	17.4757	12.566	0	0	0
MH-2978	698.89	681.7267	681.3348	46	17	0	17.5552	12.566	0	0	0
MH-3072	698.54	689.38	689.032	46	19	0	9.508	12.566	0	0	0
MH-3073	700.04	690.46	690.0907	46	18	0	9.9493	12.566	0	0	0
MH-3074	702.25	691.34	690.9686	46	16	0	11.2814	12.566	0	0	0
MH-3075	706.07	694.41	693.8982	46	18	0	12.1718	12.566	0	0	0
MH-3076	709.37	696.62	696.1083	46	17	0	13.2617	12.566	0	0	0
MH-3078	710	698.82	698.3089	46	16	0	11.6911	12.566	0	0	0
MH-3079	708.94	701.28	700.7687	46	15	0	8.1713	12.566	0	0	0
MH-3080	693.25	681.09	680.7603	46	18	0	12.4897	12.566	0	0	0
MH-3081	690.5	682.79	682.452	46	18	0	8.048	12.566	0	0	0
MH-3082	694.34	685.11	684.1043	46	16	0	10.2357	12.566	0	0	0
MH-3083	695.83	687.08	686.5737	46	15	0	9.2563	12.566	0	0	0
MH-3086	697.88	687.13	686.6967	46	20	0	11.1833	12.566	0	0	0
MH-3087	698.06	689.18	688.0405	46	19	0	10.0195	12.566	0	0	0
MH-3200	681.42	672.85	671.7059	46	24	0	9.7141	12.566	0	0	0
MH-3204	685.4	672.26	669.6223	46	25	0	15.7777	12.566	0	0	0
MH-3207	684.51	671.75	670.3616	46	25	0	14.1484	12.566	0	0	0
MH-4634	701.25	693.59	692.947	46	15	0	8.303	12.566	0	0	0
MH-16260	705.51	694.88	694.2751	46	25	0	11.2349	12.566	0	0	0
MH-16261	706.26	695.38	694.7605	46	21	0	11.4995	12.566	0	0	0
MH-16262	705.11	696.28	695.6447	46	16	0	9.4653	12.566	0	0	0
MH-16263	706.02	696.58	695.9448	46	20	0	10.0752	12.566	0	0	0
MH-16264	706.73	697.07	696.4339	46	18	0	10.2961	12.566	0	0	0
MH-16265	707.89	697.51	696.8826	46	16	0	11.0074	12.566	0	0	0
MH-16266	706.71	694.37	691.7446	46	21	0	14.9654	12.566	0	0	0
MH-635	676.2	669.92	668.8424	46	16	0	7.3576	12.566	0	0	0
MH-1005	682.65	678.49	671.5856	46	15	0	11.0644	12.566	0	0	0
MH-1006	689.42	681.09	680.5479	46	15	0	8.8721	12.566	0	0	0
MH-2646	683.4	673.15	672.32	0	0	0	11.08	12.566	0	0	0
MH-4319	679	670.79	670.11	0	0	0	8.89	12.566	0	0	0
MH-4320	683	672.44	671.59	0	0	0	11.41	12.566	0	0	0
MH-4321	677.62	670.85	670.2076	46	17	0	7.4124	12.566	0	0	0
MH-604	685.1	674.55	666.5883	46	17	0	18.5117	12.566	0	0	0
MH-634	679	668.26	667.6639	46	17	0	11.3361	12.566	0	0	0
MH-2841	678	673.76	667.836	46	24	0	10.164	12.566	0	0	0
MH-2842	679.5	674.74	674.2339	46	17	0	5.2661	12.566	0	0	0
MH-2843	682.25	675.55	675.0398	46	15	0	7.2102	12.566	0	0	0
MH-3208	680	665.87	664.4614	46	26	0	15.5386	12.566	0	0	0
MH-3209	679	667.4	666.2323	46	26	0	12.7677	12.566	0	0	0
MH-3210	678	668.43	667.2721	46	25	0	10.7279	12.566	0	0	0
MH-4343	678	674.04	673.5477	46	17	0	4.4523	12.566	0	0	0
MH-4344	684.5	675.19	674.6884	46	15	0	9.8116	12.566	0	0	0
MH-602	675.4	663.95	663.3882	46	18	0	12.0118	12.566	0	0	0
MH-603	680	665.55	664.9884	46	18	0	15.0116	12.566	0	0	0
MH-621	687.5	676.09	675.5582	46	17	0	11.9418	12.566	0	0	0
MH-622	690	678.1	677.5719	46	16	0	12.4281	12.566	0	0	0
MH-624	690	680.16	679.6308	46	15	0	10.3692	12.566	0	0	0

Table 12
5-Year Recurrence Interval Event - Modeling Results - Existing Conditions
Pipe Summary - South Basin

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Proposed Pipe Diameter (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends Upstream (ft)	Maximum Water Elevation at Pipe Ends Downstream (ft)	Ratio d/D US	Ratio d/D DS
P-795	1.0234	2.9026	8.04		0.0173	46	17	1.066	46	17	0.0169	694.4814	693.1782	0.092	0.087
P-796	0.9213	2.6131	8.04		0.0294	46	22	1.1488	46	22	0.0319	691.7446	690.4966	0.126	0.114
P-797	0.8878	2.5434	8		0.3251	46	16	2.3323	46	17	0.3662	682.1411	681.3348	0.422	0.412
P-798	0.9147	2.6205	8		0.325	46	18	2.3965	46	19	0.3553	681.3348	680.5343	0.412	0.411
P-799	0.9158	2.6236	8		0.3248	46	19	2.3841	45	53	0.3547	680.5343	679.6878	0.411	0.462
P-800	0.9085	2.6023	8.0004		0.3197	46	29	2.4288	0	15	0.3519	679.6878	679.3555	0.462	1.298
P-587	1.9652	3.6035	9.9996		1.3161	46	28	3.7706	45	19	0.6697	679.3555	678.9722	1.039	1.623
P-589	2.0335	3.7287	9.9996		1.3166	46	29	3.7793	0	12	0.6474	678.9722	678.5785	1.623	2.29
P-591	2.0402	3.7408	9.9996	12	2.2024	46	27	4.138	43	15	1.0795	678.5785	677.4883	2.29	2.122
P-592	1.9969	3.6613	10	12	2.2025	46	27	4.0101	46	27	1.1029	677.4883	676.3956	2.122	1.903
P-594	1.9574	3.5888	10	12	2.8074	46	27	5.1758	46	27	1.4343	676.3956	674.6165	1.915	0.836
P-596	2.8093	5.1511	9.9996	12	2.8073	46	27	5.84	46	26	0.9993	674.6165	672.8677	0.836	0.729
P-1055	12.484	5.1902	21		3.2329	46	24	4.3533	46	25	0.259	672.8677	671.7069	0.347	0.347
P-1056	12.1716	5.0604	21		3.2329	46	25	4.2752	46	26	0.2656	671.7059	670.6152	0.352	0.352
P-1057	12.7218	5.2891	21		3.2329	46	25	4.4136	46	26	0.2541	670.3616	669.6408	0.344	0.343
P-281	1.5457	4.3841	8.04		0.2279	46	15	2.8759	46	16	0.1474	681.6099	678.5581	0.283	0.206
P-282	2.4502	6.9497	8.04		0.2277	46	16	4.3436	46	16	0.0929	678.5581	673.1977	0.206	0.206
P-525	1.1042	3.1318	8.04		0.38	46	15	2.838	46	16	0.3441	680.0616	678.8902	0.405	0.403
P-536	1.1188	3.1733	8.04		0.3797	46	16	2.8574	46	17	0.3393	678.8902	677.3865	0.403	0.398
P-538	1.1367	3.2242	8.04		0.3793	46	17	2.8028	45	15	0.3337	677.3865	676.3956	0.398	1.202
P-739	1.4445	2.6698	9.96		0.2414	46	15	1.91	44	46	0.1671	676.583	676.4109	0.293	0.832
P-737	1.4754	2.7268	9.96		0.243	47	9	1.6511	42	31	0.1647	676.4109	676.3956	0.832	1.609
P-565	1.3565	3.8475	8.04		0.3799	46	15	3.2915	46	15	0.2801	683.8625	681.9871	0.362	0.369
P-569	1.3565	3.8475	8.04		0.3797	46	16	3.2414	46	17	0.2799	681.9871	680.0924	0.369	0.347
P-571	1.4675	4.1623	8.04		0.3794	46	17	4.4619	0	4	0.2586	680.0924	678.5785	0.347	1.356
P-766	2.4801	7.0346	8.04		0.2736	46	15	4.1544	46	15	0.1103	687.0802	682.0796	0.224	0.387
P-768	0.9118	2.5862	8.04		0.2733	46	16	2.1999	46	16	0.2997	682.0796	681.5288	0.387	0.342
P-681	1.0876	3.0847	8.04		0.2731	46	16	6.4102	0	4	0.2511	681.5288	680.6304	0.342	0.433
P-683	0.702	1.9912	8.04		0.2728	46	18	1.8573	46	18	0.3887	680.6304	680.2373	0.433	0.444
P-692	1.3671	3.8776	8.04		0.5297	46	16	3.4527	45	18	0.3875	680.2373	678.696	0.444	1.606
P-693	1.4663	2.71	9.96		0.5251	46	21	2.0986	44	47	0.3581	678.696	678.5785	1.296	2.299
P-263	1.121	3.1796	8.04		0.3343	46	15	2.7171	46	16	0.2982	690.0667	688.7876	0.383	0.355
P-610	1.2522	3.5516	8.04		0.3342	46	16	2.9922	46	17	0.2669	688.7876	687.4737	0.355	0.349
P-611	1.279	3.6278	8.04		0.3339	46	17	3.0921	0	4	0.261	687.4737	686.1533	0.349	0.348
P-833	1.4807	4.1999	8.04		0.1823	46	15	2.8531	46	15	0.1231	700.7687	698.3088	0.237	0.237
P-835	1.4813	4.2015	8.04		0.1821	46	16	2.8502	46	17	0.123	698.3089	696.1083	0.237	0.236
P-837	1.4882	4.2211	8.04		0.1821	46	17	12.6873	0	4	0.1223	696.1083	693.8982	0.236	0.236
P-841	1.4865	4.2162	8.04		0.1819	46	18	2.5112	46	19	0.1224	693.8982	690.9686	0.236	0.446
P-844	0.9982	2.8311	8.04		0.4084	46	16	2.6862	46	16	0.4091	690.9686	690.0907	0.446	0.449
P-845	0.9853	2.7947	8.04		0.4082	46	18	2.638	46	18	0.4143	690.0907	689.032	0.449	0.481
P-1996	0.8808	2.4982	8.04		0.4081	46	19	2.4598	46	19	0.4633	689.032	688.8072	0.481	0.444
P-864	1.6033	4.5475	8.04		0.4081	46	19	5.2194	0	10	0.2545	688.0405	686.6967	0.344	0.353
P-872	1.5247	4.3246	8.04		0.408	46	20	3.661	46	21	0.2676	686.6967	684.6765	0.353	0.353
P-873	2.0906	5.9296	8.04		0.2736	46	15	3.4942	46	15	0.1309	686.5737	684.1043	0.244	0.514
P-876	1.3205	3.7453	8.04		0.679	46	17	3.7375	46	18	0.5142	684.1043	682.452	0.514	0.495
P-881	1.3799	3.9139	8.04		0.6789	46	18	3.8835	46	17	0.492	682.452	680.7603	0.495	0.508
P-883	1.3234	3.7536	8.04		0.6788	46	18	3.7741	46	18	0.5129	680.7603	679.3555	0.508	0.62
P-792	0.9153	2.5962	8.04		0.0183	46	16	1.0172	46	16	0.02	691.2753	689.6778	0.097	0.101
P-788	0.9176	2.6027	8.04		0.0182	46	21	1.8694	0	8	0.0198	689.6778	688.4795	0.101	0.089
P-2328	4.0261	11.4195	8.04		0.0122	46	15	4.2587	0	1	0.003	692.947	684.0749	0.04	0.082
P-786	0.9122	2.5873	8.04		0.0383	46	20	0.9361	46	25	0.042	683.1134	682.1411	0.139	0.42
P-17598	0.8621	2.4452	8.04		0.0062	46	16	0.6553	46	17	0.0072	696.8826	696.4339	0.064	0.051
P-17599	1.2023	3.4101	8.04		0.0062	46	18	2.0649	0	4	0.0051	696.4339	695.9448	0.051	0.052
P-17600	1.0386	2.9459	8.04		0.0062	46	20	2.5651	0	19	0.0059	695.9448	694.7605	0.052	0.075
P-17601	1.0499	2.978	8.04		0.0062	46	16	0.8002	46	16	0.0059	695.6447	694.7605	0.052	0.075
P-17602	1.0612	3.0099	8.04		0.0123	46	21	1.2181	0	4	0.0116	694.7605	694.2751	0.075	0.097
P-17604	0.729	2.0677	8.04		0.0122	46	25	1.3937	0	16	0.0168	694.2751	693.7486	0.097	0.072
P-783	0.8808	2.4982	8.04		0.0121	46	17	0.7893	46	17	0.0138	684.0749	683.1134	0.082	0.139
P-287	1.4614	4.1449	8.04		0.1163	46	16	2.4723	46	16	0.0796	680.5479	677.9473	0.191	0.19
P-1888	1.9056	3.5221	9.96		0.2091	46	16	2.3087	46	16	0.1097	671.5856	670.2076	0.224	0.226
P-1887	1.866	3.4487	9.96		0.2088	46	17	2.2742	46	18	0.1119	670.2076	669.2769	0.226	0.225
P-1885	1.396	3.9594	8.04		0	0	0	0	0	0	0	670.11	670.11	0	0
P-1884	1.4066	3.9895	8.04		0	0	0	0	0	0	0	670.11	668.8424	0	0
P-2991	0.8028	2.277	8.04		0	0	0	0	0	0	0	669.6223	669.6223	0	0
P-600	1.9414	3.5882	9.96		0	0	0	0	0	0	0	672.32	672.32	0	0
P-601	1.8314	3.3849	9.96		0	0	0	0	0	0	0	671.5856	671.5856	0	0
P-1059	11.863	4.9321	21		3.3119	46	26	4.2265	46	27	0.2792	669.6223	668.2922	0.361	0.361
P-1060	14.7317	6.1247	21		3.5512	46	25	5.017	46	25	0.2411	667.836	667.2721	0.335	0.338
P-1061	14.491	6.0247	21		3.5513	46	25	4.9652	46	26	0.2451	667.2721	666.2323	0.338	0.333
P-1062	14.8742	6.184	21		3.5512	46	26	5.0702	46	27	0.2388	666.2323	664.7014	0.333	0.332
P-1943	0.9226	2.6167	8.04		0.1279	46	15	1.8246	46	15	0.1386	674.6884	673.5477	0.251	0.265
P-1944	0.8643	2.4516	8.04		0.1276	46	17	1.7226	46	17	0.1477	673.5477	673.2528	0.265	0.243
P-753	0.9328	2.6456	8.04		0.1164	46	15	1.7979	46	15	0.1247	675.0398	674.2339	0.238	0.245
P-760	0.9164	2.5994	8.04		0.116	46	17	1.7476	46	17	0.1266	674.2339	673.2447	0.245	0.231
P-254	2.139	3.9533	9.96		0.3362	46	16	2.8593	46	16	0.1572	668.8424	667.6639	0.268	0.282
P-255	1.9378	3.5815	9.96		0.336	46	17	2.6296	46	17	0.1734	667.6639	666.5883	0.282	0.323
P-242	1.4403	4.0851	8.04		0.1396	46	15	2.5837	46	15	0.0969	679.6308	677.5719	0.21	0.212
P-243	1.4437	4.0947	8.04		0.1394	46	16	2.5676	46	17	0.0966	677.5719	675.5582	0.212	0.206
P-244	1.4967	4.245	8.04		0.1393	46	17	3.6456	0	4	0.0931	675.5582	674.0178	0.206	0.206
P-1889	2.5618	4.7348	9.96		0.5793	46	17	3.8256	46	17	0.2261	666.5883	664.9884	0.323	0.323
P-1890	2.5618	4.7348	9.96		0.5793	46	18	3.825	46	18	0.2261	664.9884	663.3882	0.323	0.323
GATE	#	1	Undefnd		3.5512	46	26								
GATE	#	2	Undefnd		0.5793	46	18								

Table 13
10-Year Recurrence Interval Event - Model Results - Existing Conditions
Pipe Summary - South Basin

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-993	689	682.09	681.6213	46	15	0	7.3787	12.566	0	0	0
MH-999	683.01	674.01	672.9045	46	24	0	10.1055	12.566	0	0	0
MH-1001	685.92	679.09	678.5662	46	16	0	7.3538	12.566	0	0	0
MH-2496	685.3	676.26	677.0275	46	25	0.7675	8.2725	12.566	0	0	0
MH-2497	687.62	677.79	677.4752	46	24	0	10.1448	12.566	0	0	0
MH-2499	690.87	679.29	678.9067	46	16	0	11.9633	12.566	0	0	0
MH-2507	691.29	680.46	680.0801	46	15	0	11.2099	12.566	0	0	0
MH-2592	687.8	676.5533	678.3672	46	27	1.8139	9.4328	12.566	0	0	0
MH-2594	691.34	678.34	679.6996	46	27	1.3596	11.6404	12.566	0	0	0
MH-2598	693.94	680.53	680.1803	46	25	0	13.7597	12.566	0	0	0
MH-2599	692.41	682.41	681.9979	46	16	0	10.4121	12.566	0	0	0
MH-2610	692.87	684.29	683.8781	46	15	0	8.9919	12.566	0	0	0
MH-2630	694	678.4533	680.1772	46	28	1.7239	13.8228	12.566	0	0	0
MH-2631	697.74	686.59	680.6488	46	28	0	17.0912	12.566	0	0	0
MH-2645	683.5	674.7533	674.8337	46	25	0.0804	8.6663	12.566	0	0	0
MH-2707	696.91	687.91	687.4884	46	17	0	9.4216	12.566	0	0	0
MH-2709	696.97	689.22	688.8026	46	16	0	8.1674	12.566	0	0	0
MH-2743	697.98	690.48	690.0832	46	15	0	7.8968	12.566	0	0	0
MH-2831	685.54	678.45	679.844	46	27	1.394	5.696	12.566	0	0	0
MH-2833	687.69	680.61	680.3912	46	25	0	7.2988	12.566	0	0	0
MH-2835	689.67	681.01	680.6615	46	20	0	9.0085	12.566	0	0	0
MH-2836	690.3	681.97	681.5432	46	16	0	8.7568	12.566	0	0	0
MH-2839	686.55	676.55	677.0486	46	25	0.4986	9.5014	12.566	0	0	0
MH-2840	683.76	677.17	677.0674	46	25	0	6.6926	12.566	0	0	0
MH-2895	690.15	682.49	682.0961	46	15	0	8.0539	12.566	0	0	0
MH-2898	695.43	687.6	687.0891	46	15	0	8.3409	12.566	0	0	0
MH-2920	694.86	691.09	682.1599	46	15	0	12.7001	12.566	0	0	0
MH-2921	696.85	689.09	683.1188	46	20	0	13.7312	12.566	0	0	0
MH-2922	702.44	690.28	689.6816	46	21	0	12.7584	12.566	0	0	0
MH-2933	692.47	684.69	684.0779	46	17	0	8.3921	12.566	0	0	0
MH-2939	705.43	695.09	694.4849	46	16	0	10.9451	12.566	0	0	0
MH-2960	699.96	691.88	691.279	46	16	0	8.681	12.566	0	0	0
MH-2975	698	680.0467	680.7807	46	29	0.734	17.2193	12.566	0	0	0
MH-2976	698.01	680.9267	680.9032	46	30	0	17.1068	12.566	0	0	0
MH-2978	698.89	681.7267	681.3556	46	26	0	17.5344	12.566	0	0	0
MH-3072	698.54	689.38	689.0539	46	19	0	9.4861	12.566	0	0	0
MH-3073	700.04	690.46	690.1111	46	18	0	9.9289	12.566	0	0	0
MH-3074	702.25	691.34	690.9888	46	16	0	11.2612	12.566	0	0	0
MH-3075	706.07	694.41	693.9077	46	18	0	12.1623	12.566	0	0	0
MH-3076	709.37	696.62	696.1177	46	17	0	13.2523	12.566	0	0	0
MH-3078	710	698.82	698.3183	46	16	0	11.6817	12.566	0	0	0
MH-3079	708.94	701.28	700.7781	46	15	0	8.1619	12.566	0	0	0
MH-3080	693.25	681.09	681.1108	46	29	0.0208	12.1392	12.566	0	0	0
MH-3081	690.5	682.79	682.4786	46	26	0	8.0214	12.566	0	0	0
MH-3082	694.34	685.11	684.1291	46	16	0	10.2109	12.566	0	0	0
MH-3083	695.83	687.08	686.5834	46	15	0	9.2466	12.566	0	0	0
MH-3086	697.88	687.13	686.7119	46	20	0	11.1681	12.566	0	0	0
MH-3087	698.06	689.18	688.0551	46	19	0	10.0049	12.566	0	0	0
MH-3200	681.42	672.85	671.7434	46	24	0	9.6766	12.566	0	0	0
MH-3204	685.4	672.26	669.6613	46	25	0	15.7387	12.566	0	0	0
MH-3207	684.51	671.75	670.3979	46	25	0	14.1121	12.566	0	0	0
MH-4634	701.25	693.59	692.9483	46	15	0	8.3017	12.566	0	0	0
MH-16260	705.51	694.88	694.2784	46	25	0	11.2316	12.566	0	0	0
MH-16261	706.26	695.38	694.7635	46	21	0	11.4965	12.566	0	0	0
MH-16262	705.11	696.28	695.6482	46	16	0	9.4618	12.566	0	0	0
MH-16263	706.02	696.58	695.9483	46	20	0	10.0717	12.566	0	0	0
MH-16264	706.73	697.07	696.4356	46	18	0	10.2944	12.566	0	0	0
MH-16265	707.89	697.51	696.8851	46	16	0	11.0049	12.566	0	0	0
MH-16266	706.71	694.37	691.7491	46	22	0	14.9609	12.566	0	0	0
MH-635	676.2	669.92	668.8559	46	16	0	7.3441	12.566	0	0	0
MH-1005	682.65	678.49	671.5966	46	15	0	11.0534	12.566	0	0	0
MH-1006	689.42	681.09	680.5553	46	15	0	8.8647	12.566	0	0	0
MH-2646	683.4	673.15	672.32	0	0	0	11.08	12.566	0	0	0
MH-4319	679	670.79	670.11	0	0	0	8.89	12.566	0	0	0
MH-4320	683	672.44	671.59	0	0	0	11.41	12.566	0	0	0
MH-4321	677.62	670.85	670.2186	46	17	0	7.4014	12.566	0	0	0
MH-604	685.1	674.55	666.605	46	17	0	18.495	12.566	0	0	0
MH-634	679	668.26	667.6782	46	17	0	11.3218	12.566	0	0	0
MH-2841	678	673.76	667.8715	46	24	0	10.1285	12.566	0	0	0
MH-2842	679.5	674.74	674.2435	46	17	0	5.2565	12.566	0	0	0
MH-2843	682.25	675.55	675.0493	46	15	0	7.2007	12.566	0	0	0
MH-3208	680	665.87	664.4967	46	26	0	15.5033	12.566	0	0	0
MH-3209	679	667.4	666.2673	46	25	0	12.7327	12.566	0	0	0
MH-3210	678	668.43	667.3078	46	24	0	10.6922	12.566	0	0	0
MH-4343	678	674.04	673.5584	46	17	0	4.4416	12.566	0	0	0
MH-4344	684.5	675.19	674.6986	46	15	0	9.8014	12.566	0	0	0
MH-602	675.4	663.95	663.4047	46	18	0	11.9953	12.566	0	0	0
MH-603	680	665.55	665.0052	46	18	0	14.9948	12.566	0	0	0
MH-621	687.5	676.09	675.5664	46	17	0	11.9336	12.566	0	0	0
MH-622	690	678.1	677.5802	46	16	0	12.4198	12.566	0	0	0
MH-624	690	680.16	679.6391	46	15	0	10.3609	12.566	0	0	0

Table 13
10-Year Recurrence Interval Event - Model Results - Existing Conditions
Pipe Summary - South Basin

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Proposed Pipe Diameter (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends Upstream (ft)	Maximum Water Elevation at Pipe Ends Downstream (ft)	Ratio d/D US	Ratio d/D DS
P-795	1.0234	2.9026	8.04		0.0194	46	16	1.1032	46	17	0.0189	694.4849	693.1814	0.097	0.092
P-796	0.9213	2.6131	8.04		0.033	46	22	1.1923	46	22	0.0358	691.7491	690.5015	0.133	0.122
P-797	0.8878	2.5434	8		0.3648	46	16	2.4096	46	25	0.4109	682.1599	681.3556	0.45	0.443
P-798	0.9147	2.6205	8		0.3645	46	17	2.4563	45	48	0.3985	681.3556	680.9032	0.443	0.965
P-799	0.9158	2.6236	8		0.3777	47	10	2.4112	45	21	0.4124	680.9032	680.7807	0.965	2.101
P-800	0.9085	2.6023	8.0004		0.4157	47	18	2.4288	0	15	0.4575	680.7807	680.6488	2.101	3.238
P-587	1.9652	3.6035	9.9996		1.4679	46	58	3.7549	44	44	0.7469	680.6488	680.1772	2.591	3.069
P-589	2.0335	3.7287	9.9996		1.4699	46	58	3.7793	0	12	0.7229	680.1772	679.6996	3.069	3.636
P-591	2.0402	3.7408	9.9996	12	2.4538	46	29	4.4262	46	29	1.2027	679.6996	678.3672	3.636	3.177
P-592	1.9967	3.6612	9.9996	12	2.4542	46	29	4.4398	46	29	1.2291	678.3672	677.0275	3.177	2.661
P-594	1.9572	3.5887	9.9996	12	3.1325	46	25	5.6662	46	25	1.6005	677.0275	674.8337	2.673	1.097
P-596	2.8093	5.1511	9.9996	12	3.1325	46	26	5.8478	47	20	1.1151	674.8337	672.9045	1.097	0.773
P-1055	12.484	5.1902	21		3.6107	46	24	4.4896	46	25	0.2892	672.9045	671.7439	0.368	0.368
P-1056	12.1716	5.0604	21		3.6107	46	25	4.407	46	26	0.2966	671.7434	670.6527	0.373	0.373
P-1057	12.7218	5.2891	21		3.6107	46	25	4.5526	46	26	0.2838	670.3979	669.6776	0.365	0.364
P-281	1.5457	4.3841	8.04		0.2556	46	15	2.9725	46	16	0.1654	681.6213	678.5662	0.301	0.218
P-282	2.4502	6.9497	8.04		0.2554	46	16	4.4866	46	16	0.1042	678.5662	673.2056	0.218	0.217
P-525	1.1042	3.1318	8.04		0.4263	46	15	2.9209	46	16	0.3861	680.0801	678.9067	0.433	0.428
P-536	1.1188	3.1733	8.04		0.4258	46	16	2.9297	45	46	0.3806	678.9067	677.4752	0.428	0.53
P-538	1.1367	3.2242	8.04		0.4209	46	17	2.7827	43	14	0.3703	677.4752	677.0275	0.53	2.146
P-739	1.4445	2.6698	9.96		0.2654	46	45	1.8872	43	2	0.1838	677.0674	677.0486	0.876	1.601
P-737	1.4754	2.7268	9.96		0.3067	47	17	1.675	42	29	0.2079	677.0486	677.0275	1.601	2.371
P-565	1.3565	3.8475	8.04		0.4263	46	15	3.4047	46	16	0.3143	683.8781	681.9979	0.385	0.385
P-569	1.3565	3.8475	8.04		0.4259	46	16	3.3792	45	46	0.314	681.9979	680.1803	0.385	0.478
P-571	1.4675	4.1623	8.04		0.4207	46	16	4.4619	0	4	0.2867	680.1803	679.6996	0.478	3.029
P-766	2.4801	7.0346	8.04		0.3069	46	15	4.2976	46	15	0.1238	687.0891	682.0961	0.238	0.412
P-768	0.9118	2.5862	8.04		0.3066	46	16	2.2731	46	16	0.3362	682.0961	681.5432	0.412	0.363
P-681	1.0876	3.0847	8.04		0.3064	46	16	6.4102	0	4	0.2817	681.5432	680.6615	0.363	0.48
P-683	0.702	1.9912	8.04		0.3049	46	18	1.8806	45	23	0.4343	680.6615	680.3912	0.48	0.673
P-692	1.3671	3.8776	8.04		0.5859	46	17	3.4541	44	44	0.4286	680.3912	679.844	0.673	3.319
P-693	1.4663	2.71	9.96		0.5827	46	19	2.0844	43	8	0.3974	679.844	679.6996	2.68	3.65
P-263	1.121	3.1796	8.04		0.3751	46	15	2.8049	46	16	0.3346	690.0832	688.8026	0.408	0.377
P-610	1.2522	3.5516	8.04		0.3749	46	16	3.0881	46	17	0.2994	688.8026	687.4884	0.377	0.371
P-611	1.279	3.6278	8.04		0.3746	46	17	3.1482	46	18	0.2929	687.4884	686.1682	0.371	0.37
P-833	1.4807	4.1999	8.04		0.2045	46	15	2.9483	46	15	0.1381	700.7781	698.3183	0.251	0.251
P-835	1.4813	4.2015	8.04		0.2044	46	16	2.9454	46	17	0.138	698.3183	696.1177	0.251	0.25
P-837	1.4882	4.2211	8.04		0.2043	46	17	12.6873	0	4	0.1373	696.1177	693.9077	0.25	0.25
P-841	1.4865	4.2162	8.04		0.2041	46	18	2.5937	46	19	0.1373	693.9077	690.9888	0.25	0.476
P-844	0.9982	2.8311	8.04		0.4583	46	16	2.7684	46	16	0.4592	690.9888	690.1111	0.476	0.479
P-845	0.9853	2.7947	8.04		0.4581	46	18	2.7187	46	18	0.4649	690.1111	689.0539	0.479	0.513
P-1996	0.8808	2.4982	8.04		0.458	46	19	2.5399	46	19	0.52	689.0539	688.8255	0.513	0.471
P-864	1.6033	4.5475	8.04		0.458	46	19	5.2194	0	10	0.2857	688.0551	686.7119	0.366	0.376
P-872	1.5247	4.3246	8.04		0.4579	46	20	3.7781	46	20	0.3003	686.7119	684.6915	0.376	0.375
P-873	2.0906	5.9296	8.04		0.3069	46	15	3.6061	46	15	0.1468	686.5834	684.1291	0.259	0.551
P-876	1.3205	3.7453	8.04		0.7619	46	17	3.8538	46	26	0.577	684.1291	682.4786	0.551	0.535
P-881	1.3799	3.9139	8.04		0.7618	46	18	3.9346	45	43	0.5521	682.4786	681.1108	0.535	1.031
P-883	1.3234	3.7536	8.04		0.7549	46	58	3.8071	45	27	0.5705	681.1108	680.6488	1.031	2.55
P-792	0.9153	2.5962	8.04		0.0205	46	16	1.0535	46	16	0.0224	691.279	689.6816	0.103	0.107
P-788	0.9176	2.6027	8.04		0.0204	46	21	1.8694	0	8	0.0222	689.6816	688.4829	0.107	0.094
P-2328	4.0261	11.4195	8.04		0.0137	46	15	4.2587	0	1	0.0034	692.9483	684.0779	0.042	0.086
P-786	0.9122	2.5873	8.04		0.043	46	20	0.9702	46	26	0.0471	683.1188	682.1599	0.147	0.448
P-17598	0.8621	2.4452	8.04		0.0069	46	16	0.6789	46	17	0.008	696.8851	696.4356	0.067	0.053
P-17599	1.2023	3.4101	8.04		0.0069	46	18	2.0649	0	4	0.0058	696.4356	695.9483	0.053	0.057
P-17600	1.0386	2.9459	8.04		0.0069	46	20	2.5651	0	19	0.0066	695.9483	694.7635	0.057	0.08
P-17601	1.0499	2.978	8.04		0.0069	46	16	0.7864	46	16	0.0066	695.6482	694.7635	0.057	0.08
P-17602	1.0612	3.0099	8.04		0.0138	46	21	1.2181	0	4	0.013	694.7635	694.2784	0.08	0.102
P-17604	0.729	2.0677	8.04		0.0137	46	25	1.3937	0	16	0.0188	694.2784	693.7523	0.102	0.078
P-783	0.8808	2.4982	8.04		0.0136	46	17	0.816	46	17	0.0154	684.0779	683.1188	0.086	0.147
P-287	1.4614	4.1449	8.04		0.1304	46	15	2.5628	46	16	0.0892	680.5553	677.9552	0.202	0.202
P-1888	1.9056	3.5221	9.96		0.2346	46	16	2.3894	46	15	0.1231	671.5966	670.2186	0.237	0.239
P-1887	1.866	3.4487	9.96		0.2343	46	17	2.3565	46	18	0.1256	670.2186	669.2886	0.239	0.239
P-1885	1.396	3.9594	8.04		0	0	0	0	0	0	0	670.11	670.11	0	0
P-1884	1.4066	3.9895	8.04		0	0	0	0	0	0	0	670.11	668.8559	0	0
P-2991	0.8028	2.277	8.04		0	0	0	0	0	0	0	669.6613	669.6613	0	0
P-600	1.9414	3.5882	9.96		0	0	0	0	0	0	0	672.32	672.32	0	0
P-601	1.8314	3.3849	9.96		0	0	0	0	0	0	0	671.5966	671.5966	0	0
P-1059	11.863	4.9321	21		3.6993	46	26	4.3538	46	27	0.3118	669.6613	668.3305	0.384	0.383
P-1060	14.7317	6.1247	21		3.9679	46	24	5.1753	46	25	0.2693	667.8715	667.3078	0.355	0.359
P-1061	14.491	6.0247	21		3.968	46	25	5.1241	46	26	0.2738	667.3078	666.2673	0.359	0.353
P-1062	14.8742	6.184	21		3.968	46	26	5.231	46	27	0.2668	666.2673	664.7367	0.353	0.352
P-1943	0.9226	2.6167	8.04		0.1434	46	15	1.886	46	15	0.1555	674.6985	673.5584	0.266	0.281
P-1944	0.8643	2.4516	8.04		0.1432	46	17	1.7827	46	17	0.1657	673.5584	673.2623	0.281	0.257
P-753	0.9328	2.6456	8.04		0.1305	46	15	1.8577	46	15	0.1399	675.0493	674.2435	0.253	0.259
P-760	0.9164	2.5994	8.04		0.1301	46	17	1.8078	46	18	0.142	674.2435	673.2543	0.259	0.245
P-254	2.139	3.9533	9.96		0.3772	46	16	2.9556	46	16	0.1763	668.8559	667.6782	0.284	0.299
P-255	1.9378	3.5815	9.96		0.3771	46	17	2.7154	46	17	0.1946	667.6782	666.605	0.299	0.343
P-242	1.4403	4.0851	8.04		0.1566	46	15	2.6718	46	15	0.1087	679.6391	677.5802	0.223	0.224
P-243	1.4437	4.0947	8.04		0.1564	46	16	2.656	46	17	0.1084	677.5802	675.5664	0.224	0.218
P-244	1.4967	4.245	8.04		0.1563	46	17	3.6456	0	4	0.1044	675.5664	674.0257	0.218	0.217
P-1889	2.5618	4.7348	9.96		0.65	46	17	3.9495	46	17	0.2537	666.605	665.0052	0.343	0.344
P-1890	2.5618	4.7348	9.96		0.65	46	18	3.9478	46	18	0.2537	665.0052	663.4047	0.344	0.343
GATE	#	1	Undefnd		3.968	46	26								
GATE	#	2	Undefnd		0.65	46	18								

Table 14
25-Year Recurrence Interval Event - Modeling Results - Existing Conditions
Pipe Summary - South Basin

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-993	689	682.09	681.6369	46	15	0	7.3631	12.566	0	0	0
MH-999	683.01	674.01	672.95	46	48	0	10.06	12.566	0	0	0
MH-1001	685.92	679.09	678.5771	46	16	0	7.3429	12.566	0	0	0
MH-2496	685.3	676.26	678.3626	46	52	2.1026	6.9374	12.566	0	0	0
MH-2497	687.62	677.79	678.6228	46	51	0.8328	8.9972	12.566	0	0	0
MH-2499	690.87	679.29	679.035	46	49	0	11.835	12.566	0	0	0
MH-2507	691.29	680.46	680.1035	46	15	0	11.1865	12.566	0	0	0
MH-2592	687.8	676.5533	680.0387	46	53	3.4854	7.7613	12.566	0	0	0
MH-2594	691.34	678.34	681.6979	46	54	3.3579	9.6421	12.566	0	0	0
MH-2598	693.94	680.53	681.9142	46	54	1.3842	12.0258	12.566	0	0	0
MH-2599	692.41	682.41	682.192	46	53	0	10.218	12.566	0	0	0
MH-2610	692.87	684.29	683.8992	46	15	0	8.9708	12.566	0	0	0
MH-2630	694	678.4533	682.2885	46	55	3.8352	11.7115	12.566	0	0	0
MH-2631	697.74	686.59	682.8703	46	55	0	14.8697	12.566	0	0	0
MH-2645	683.5	674.7533	675.5557	46	52	0.8024	7.9443	12.566	0	0	0
MH-2707	696.91	687.91	687.5085	46	17	0	9.4015	12.566	0	0	0
MH-2709	696.97	689.22	688.8232	46	16	0	8.1468	12.566	0	0	0
MH-2743	697.98	690.48	690.1058	46	15	0	7.8742	12.566	0	0	0
MH-2831	685.54	678.45	681.8777	46	54	3.4277	3.6623	12.566	0	0	0
MH-2833	687.69	680.61	682.3902	46	54	1.7802	5.2998	12.566	0	0	0
MH-2835	689.67	681.01	682.48	46	54	1.47	7.19	12.566	0	0	0
MH-2836	690.3	681.97	682.571	46	54	0.601	7.729	12.566	0	0	0
MH-2839	686.55	676.55	678.3893	46	51	1.8393	8.1607	12.566	0	0	0
MH-2840	683.76	677.17	678.4156	46	51	1.2456	5.3444	12.566	0	0	0
MH-2895	690.15	682.49	682.6406	46	54	0.1506	7.5094	12.566	0	0	0
MH-2898	695.43	687.6	687.1011	46	15	0	8.3289	12.566	0	0	0
MH-2920	694.86	691.09	683.4796	47	0	0	11.3804	12.566	0	0	0
MH-2921	696.85	689.09	683.4844	47	0	0	13.3656	12.566	0	0	0
MH-2922	702.44	690.28	689.6868	46	21	0	12.7532	12.566	0	0	0
MH-2933	692.47	684.69	684.0819	46	17	0	8.3881	12.566	0	0	0
MH-2939	705.43	695.09	694.4894	46	16	0	10.9406	12.566	0	0	0
MH-2960	699.96	691.88	691.2837	46	16	0	8.6763	12.566	0	0	0
MH-2975	698	680.0467	683.0255	46	57	2.9788	14.9745	12.566	0	0	0
MH-2976	698.01	680.9267	683.1803	46	58	2.2536	14.8297	12.566	0	0	0
MH-2978	698.89	681.7267	683.3242	47	59	1.5975	15.5658	12.566	0	0	0
MH-3072	698.54	689.38	689.0838	46	18	0	9.4562	12.566	0	0	0
MH-3073	700.04	690.46	690.1396	46	17	0	9.9004	12.566	0	0	0
MH-3074	702.25	691.34	691.017	46	16	0	11.233	12.566	0	0	0
MH-3075	706.07	694.41	693.9204	46	18	0	12.1496	12.566	0	0	0
MH-3076	709.37	696.62	696.1304	46	17	0	13.2396	12.566	0	0	0
MH-3078	710	698.82	698.331	46	16	0	11.669	12.566	0	0	0
MH-3079	708.94	701.28	700.7909	46	15	0	8.1491	12.566	0	0	0
MH-3080	693.25	681.09	683.4515	46	55	2.3615	9.7985	12.566	0	0	0
MH-3081	690.5	682.79	684.0776	46	55	1.2876	6.4224	12.566	0	0	0
MH-3082	694.34	685.11	684.7499	46	54	0	9.5901	12.566	0	0	0
MH-3083	695.83	687.08	686.5967	46	15	0	9.2333	12.566	0	0	0
MH-3086	697.88	687.13	686.7323	46	20	0	11.1477	12.566	0	0	0
MH-3087	698.06	689.18	688.0749	46	19	0	9.9851	12.566	0	0	0
MH-3200	681.42	672.85	671.7895	46	48	0	9.6305	12.566	0	0	0
MH-3204	685.4	672.26	669.7093	46	49	0	15.6907	12.566	0	0	0
MH-3207	684.51	671.75	670.4429	46	49	0	14.0671	12.566	0	0	0
MH-4634	701.25	693.59	692.9501	46	15	0	8.2999	12.566	0	0	0
MH-16260	705.51	694.88	694.2833	46	24	0	11.2267	12.566	0	0	0
MH-16261	706.26	695.38	694.7671	46	20	0	11.4929	12.566	0	0	0
MH-16262	705.11	696.28	695.6509	46	16	0	9.4591	12.566	0	0	0
MH-16263	706.02	696.58	695.9511	46	20	0	10.0689	12.566	0	0	0
MH-16264	706.73	697.07	696.4381	46	17	0	10.2919	12.566	0	0	0
MH-16265	707.89	697.51	696.8884	46	16	0	11.0016	12.566	0	0	0
MH-16266	706.71	694.37	691.7555	46	21	0	14.9545	12.566	0	0	0
MH-635	676.2	669.92	668.8741	46	16	0	7.3259	12.566	0	0	0
MH-1005	682.65	678.49	671.6114	46	15	0	11.0386	12.566	0	0	0
MH-1006	689.42	681.09	680.5654	46	15	0	8.8546	12.566	0	0	0
MH-2646	683.4	673.15	672.32	0	0	0	11.08	12.566	0	0	0
MH-4319	679	670.79	670.11	0	0	0	8.89	12.566	0	0	0
MH-4320	683	672.44	671.59	0	0	0	11.41	12.566	0	0	0
MH-4321	677.62	670.85	670.2337	46	17	0	7.3863	12.566	0	0	0
MH-604	685.1	674.55	666.6278	46	17	0	18.4722	12.566	0	0	0
MH-634	679	668.26	667.6975	46	17	0	11.3025	12.566	0	0	0
MH-2841	678	673.76	667.9155	46	49	0	10.0845	12.566	0	0	0
MH-2842	679.5	674.74	674.2567	46	17	0	5.2433	12.566	0	0	0
MH-2843	682.25	675.55	675.0621	46	15	0	7.1879	12.566	0	0	0
MH-3208	680	665.87	664.54	46	51	0	15.46	12.566	0	0	0
MH-3209	679	667.4	666.3108	46	50	0	12.6892	12.566	0	0	0
MH-3210	678	668.43	667.3521	46	49	0	10.6479	12.566	0	0	0
MH-4343	678	674.04	673.5725	46	16	0	4.4275	12.566	0	0	0
MH-4344	684.5	675.19	674.7122	46	15	0	9.7878	12.566	0	0	0
MH-602	675.4	663.95	663.4275	46	18	0	11.9725	12.566	0	0	0
MH-603	680	665.55	665.0279	46	17	0	14.9721	12.566	0	0	0
MH-621	687.5	676.09	675.5772	46	17	0	11.9228	12.566	0	0	0
MH-622	690	678.1	677.5915	46	16	0	12.4085	12.566	0	0	0
MH-624	690	680.16	679.6503	46	15	0	10.3497	12.566	0	0	0

Table 14
25-Year Recurrence Interval Event - Modeling Results - Existing Conditions
Pipe Summary - South Basin

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Proposed Pipe Diameter (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends Upstream (ft)	Maximum Water Elevation at Pipe Ends Downstream (ft)	Ratio d/D US	Ratio d/D DS
P-795	1.0234	2.9026	8.04		0.0224	46	16	1.1545	46	17	0.0219	694.4894	693.1859	0.104	0.098
P-796	0.9213	2.6131	8.04		0.038	46	21	1.2439	46	22	0.0413	691.7555	690.5071	0.142	0.13
P-797	0.8878	2.5434	8		0.4249	47	18	2.4549	45	24	0.4786	683.4795	683.3242	2.429	3.396
P-798	0.9147	2.6205	8		0.4523	47	33	2.464	44	49	0.4945	683.3242	683.1803	3.396	4.38
P-799	0.9158	2.6236	8		0.4713	47	33	2.3944	43	19	0.5147	683.1803	683.0256	4.38	5.468
P-800	0.9085	2.6023	8.0004		0.5075	47	45	2.4288	0	15	0.5586	683.0255	682.8703	5.468	6.57
P-587	1.9652	3.6035	9.9996		1.6547	47	3	3.7755	42	55	0.842	682.8703	682.2884	5.257	5.602
P-589	2.0335	3.7287	9.9996		1.6585	47	4	3.7793	0	12	0.8156	682.2885	681.6979	5.602	6.034
P-591	2.0402	3.7408	9.9996	12	2.7772	46	59	4.9369	46	59	1.3613	681.6979	680.0387	6.034	5.183
P-592	1.9967	3.6612	9.9996	12	2.779	47	3	4.9677	47	3	1.3918	680.0387	678.3626	5.183	4.263
P-594	1.9572	3.5887	9.9996	12	3.5488	46	52	6.3835	46	52	1.8132	678.3626	675.5557	4.275	1.963
P-596	2.8093	5.1511	9.9996	12	3.5488	46	52	6.5466	46	52	1.2633	675.5557	672.95	1.963	0.828
P-1055	12.484	5.1902	21		4.0967	46	48	4.6472	46	49	0.3282	672.95	671.7896	0.394	0.394
P-1056	12.1716	5.0604	21		4.0967	46	49	4.5633	46	50	0.3366	671.7895	670.6995	0.4	0.4
P-1057	12.7218	5.2891	21		4.0968	46	49	4.7116	46	50	0.322	670.4429	669.7224	0.39	0.39
P-281	1.5457	4.3841	8.04		0.2952	46	15	3.099	46	16	0.191	681.6369	678.5771	0.324	0.234
P-282	2.4502	6.9497	8.04		0.295	46	16	4.6861	46	16	0.1204	678.5771	673.2167	0.234	0.234
P-525	1.1042	3.1318	8.04		0.4921	46	15	3.0223	45	52	0.4457	680.1035	679.035	0.468	0.619
P-536	1.1188	3.1733	8.04		0.483	46	17	2.9627	44	46	0.4317	679.035	678.6228	0.619	2.243
P-538	1.1367	3.2242	8.04		0.4791	46	19	2.821	42	52	0.4215	678.6228	678.3626	2.243	4.138
P-739	1.4445	2.6698	9.96		0.3109	46	15	1.9266	42	48	0.2152	678.4156	678.3893	2.501	3.216
P-737	1.4754	2.7268	9.96		0.3345	47	46	1.6996	42	28	0.2268	678.3893	678.3626	3.216	3.979
P-565	1.3565	3.8475	8.04		0.4922	46	15	3.5199	45	46	0.3628	683.8992	682.192	0.417	0.675
P-569	1.3565	3.8475	8.04		0.4819	45	46	3.414	44	47	0.3552	682.192	681.9142	0.675	3.066
P-571	1.4675	4.1623	8.04		0.475	46	16	4.4619	0	4	0.3237	681.9142	681.6979	3.066	6.012
P-766	2.4801	7.0346	8.04		0.3544	46	15	4.4758	45	51	0.1429	687.1011	682.6406	0.255	1.225
P-768	0.9118	2.5862	8.04		0.3522	45	49	2.4157	45	49	0.3863	682.6406	682.571	1.225	1.897
P-681	1.0876	3.0847	8.04		0.365	47	20	6.4102	0	4	0.3356	682.571	682.48	1.897	3.194
P-683	0.702	1.9912	8.04		0.3808	47	21	1.8861	44	47	0.5424	682.48	682.3902	3.194	3.657
P-692	1.3671	3.8776	8.04		0.6563	46	49	3.4626	42	55	0.4801	682.3902	681.8777	3.657	6.355
P-693	1.4663	2.71	9.96		0.6581	47	19	2.118	42	50	0.4488	681.8777	681.6979	5.13	6.058
P-263	1.121	3.1796	8.04		0.4332	46	15	2.9171	46	16	0.3864	690.1058	688.8232	0.442	0.408
P-610	1.2522	3.5516	8.04		0.4329	46	16	3.2118	46	17	0.3458	688.8232	687.5085	0.408	0.401
P-611	1.279	3.6278	8.04		0.4326	46	17	3.2758	46	18	0.3382	687.5085	686.1885	0.401	0.401
P-833	1.4807	4.1999	8.04		0.2362	46	15	3.0729	46	15	0.1595	700.7909	698.331	0.27	0.27
P-835	1.4813	4.2015	8.04		0.236	46	16	3.0699	46	17	0.1593	698.331	696.1304	0.27	0.269
P-837	1.4882	4.2211	8.04		0.2359	46	17	12.6873	0	4	0.1585	696.1304	693.9204	0.269	0.269
P-841	1.4865	4.2162	8.04		0.2357	46	18	2.6999	46	18	0.1586	693.9204	691.017	0.269	0.518
P-844	0.9982	2.8311	8.04		0.5292	46	16	2.8687	46	16	0.5302	691.017	690.1396	0.518	0.522
P-845	0.9853	2.7947	8.04		0.529	46	18	2.8186	46	18	0.5369	690.1396	689.0838	0.522	0.558
P-1996	0.8808	2.4982	8.04		0.5289	46	19	2.6443	46	19	0.6005	689.0838	688.8502	0.558	0.508
P-864	1.6033	4.5475	8.04		0.5289	46	19	5.2194	0	10	0.3299	688.0749	686.7323	0.395	0.406
P-872	1.5247	4.3246	8.04		0.5288	46	20	3.93	46	20	0.3468	686.7323	684.7499	0.406	0.463
P-873	2.0906	5.9296	8.04		0.3545	46	15	3.7491	45	45	0.1696	686.5967	684.7499	0.279	1.478
P-876	1.3205	3.7453	8.04		0.8605	45	52	3.9363	45	24	0.6516	684.7499	684.0776	1.478	2.922
P-881	1.3799	3.9139	8.04		0.855	46	25	3.9626	44	47	0.6196	684.0776	683.4515	2.922	4.525
P-883	1.3234	3.7536	8.04		0.8533	46	30	3.7706	43	18	0.6448	683.4515	682.8703	4.525	5.866
P-792	0.9153	2.5962	8.04		0.0237	46	16	1.107	46	16	0.0259	691.2837	689.6868	0.11	0.115
P-788	0.9176	2.6027	8.04		0.0235	46	21	1.8694	0	8	0.0257	689.6868	688.4877	0.115	0.101
P-2328	4.0261	11.4195	8.04		0.0158	46	15	4.2587	0	1	0.0039	692.9501	684.0819	0.045	0.092
P-786	0.9122	2.5873	8.04		0.1109	47	16	1.0591	47	21	0.1215	683.4844	683.4795	0.693	2.417
P-17598	0.8621	2.4452	8.04		0.008	46	16	0.7112	46	17	0.0093	696.8884	696.4381	0.072	0.057
P-17599	1.2023	3.4101	8.04		0.008	46	18	2.0649	0	4	0.0066	696.4381	695.9511	0.057	0.061
P-17600	1.0386	2.9459	8.04		0.008	46	20	2.5651	0	19	0.0077	695.9511	694.7671	0.061	0.085
P-17601	1.0499	2.978	8.04		0.008	46	16	0.8215	46	16	0.0076	695.6509	694.7671	0.061	0.085
P-17602	1.0612	3.0099	8.04		0.0159	46	20	1.2181	0	4	0.015	694.7671	694.2833	0.085	0.109
P-17604	0.729	2.0677	8.04		0.0158	46	24	1.3937	0	16	0.0217	694.2833	693.756	0.109	0.084
P-783	0.8808	2.4982	8.04		0.0157	46	17	0.8501	46	13	0.0178	684.0819	683.4844	0.092	0.693
P-287	1.4614	4.1449	8.04		0.1506	46	15	2.6674	46	16	0.1031	680.5654	677.9647	0.217	0.216
P-1888	1.9056	3.5221	9.96		0.271	46	16	2.4891	46	15	0.1422	671.6114	670.2337	0.255	0.257
P-1887	1.866	3.4487	9.96		0.2706	46	17	2.4524	46	18	0.145	670.2337	669.303	0.257	0.257
P-1885	1.396	3.9594	8.04		0	0	0	0	0	0	0	670.11	670.11	0	0
P-1884	1.4066	3.9895	8.04		0	0	0	0	0	0	0	670.11	668.8741	0	0
P-2991	0.8028	2.277	8.04		0	0	0	0	0	0	0	669.7093	669.7093	0	0
P-600	1.9414	3.5882	9.96		0	0	0	0	0	0	0	672.32	672.32	0	0
P-601	1.8314	3.3849	9.96		0	0	0	0	0	0	0	671.6114	671.6114	0	0
P-1059	11.863	4.9321	21		4.1985	46	50	4.5061	46	51	0.3539	669.7093	668.3788	0.411	0.411
P-1060	14.7317	6.1247	21		4.5061	46	49	5.357	46	50	0.3059	667.9155	667.3521	0.38	0.384
P-1061	14.491	6.0247	21		4.5062	46	50	5.3062	46	50	0.311	667.3521	666.3108	0.384	0.378
P-1062	14.8742	6.184	21		4.5061	46	51	5.4162	46	51	0.303	666.3108	664.78	0.378	0.377
P-1943	0.9226	2.6167	8.04		0.1657	46	15	1.966	46	15	0.1796	674.7122	673.5725	0.287	0.302
P-1944	0.8643	2.4516	8.04		0.1654	46	17	1.8597	46	17	0.1914	673.5725	673.276	0.302	0.278
P-753	0.9328	2.6456	8.04		0.1507	46	15	1.9365	46	15	0.1616	675.0621	674.2567	0.272	0.279
P-760	0.9164	2.5994	8.04		0.1503	46	17	1.8854	46	17	0.164	674.2567	673.2667	0.279	0.264
P-254	2.139	3.9533	9.96		0.4356	46	16	3.0779	46	16	0.2037	668.8741	667.6975	0.306	0.322
P-255	1.9378	3.5815	9.96		0.4355	46	17	2.829	46	17	0.2247	667.6975	666.6278	0.322	0.371
P-242	1.4403	4.0851	8.04		0.1808	46	15	2.7887	46	15	0.1255	679.6503	677.5915	0.239	0.241
P-243	1.4437	4.0947	8.04		0.1807	46	16	2.7711	46	17	0.1252	677.5915	675.5772	0.241	0.235
P-244	1.4967	4.245	8.04		0.1805	46	17	3.6456	0	4	0.1206	675.5772	674.0369	0.235	0.234
P-1889	2.5618	4.7348	9.96		0.7508	46	17	4.1107	46	17	0.2931	666.6278	665.0279	0.371	0.371
P-1890	2.5618	4.7348	9.96		0.7508	46	18	4.1097	46	18	0.2931	665.0279	663.4275	0.371	0.371
GATE	#	1	Undefnd		4.5061	46	51								
GATE	#	2	Undefnd		0.7508	46	18								

Table 15
50-Year (June 19, 2009) Recurrence Interval Event - Modeling Results - Existing Conditions
Pipe Summary - South Basin

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-993	689	682.09	681.6479	46	15	0	7.3521	12.566	0	0	0
MH-999	683.01	674.01	672.986	46	52	0	10.024	12.566	0	0	0
MH-1001	685.92	679.09	678.5847	46	16	0	7.3353	12.566	0	0	0
MH-2496	685.3	676.26	679.4451	47	59	3.1851	5.8549	12.566	0	0	0
MH-2497	687.62	677.79	679.7401	46	57	1.9501	7.8799	12.566	0	0	0
MH-2499	690.87	679.29	680.0473	46	56	0.7573	10.8227	12.566	0	0	0
MH-2507	691.29	680.46	680.3064	46	54	0	10.9836	12.566	0	0	0
MH-2592	687.8	676.5533	681.4587	47	0	4.9054	6.3413	12.566	0	0	0
MH-2594	691.34	678.34	683.4421	47	0	5.1021	7.8979	12.566	0	0	0
MH-2598	693.94	680.53	683.6838	47	0	3.1538	10.2562	12.566	0	0	0
MH-2599	692.41	682.41	683.9345	47	0	1.5245	8.4755	12.566	0	0	0
MH-2610	692.87	684.29	684.1827	47	0	0	8.6873	12.566	0	0	0
MH-2630	694	678.4533	684.1715	47	1	5.7182	9.8285	12.566	0	0	0
MH-2631	697.74	686.59	684.8888	47	1	0	12.8512	12.566	0	0	0
MH-2645	683.5	674.7533	676.0933	47	59	1.34	7.4067	12.566	0	0	0
MH-2707	696.91	687.91	687.5231	46	17	0	9.3869	12.566	0	0	0
MH-2709	696.97	689.22	688.838	46	16	0	8.132	12.566	0	0	0
MH-2743	697.98	690.48	690.1221	46	15	0	7.8579	12.566	0	0	0
MH-2831	685.54	678.45	683.6455	47	0	5.1955	1.8945	12.566	0	0	0
MH-2833	687.69	680.61	684.2227	47	0	3.6127	3.4673	12.566	0	0	0
MH-2835	689.67	681.01	684.3238	47	0	3.3138	5.3462	12.566	0	0	0
MH-2836	690.3	681.97	684.4262	47	59	2.4562	5.8738	12.566	0	0	0
MH-2839	686.55	676.55	679.4754	46	59	2.9254	7.0746	12.566	0	0	0
MH-2840	683.76	677.17	679.5054	46	58	2.3354	4.2546	12.566	0	0	0
MH-2895	690.15	682.49	684.506	47	59	2.016	5.644	12.566	0	0	0
MH-2898	695.43	687.6	687.1076	45	45	0	8.3224	12.566	0	0	0
MH-2920	694.86	691.09	685.8566	47	1	0	9.0034	12.566	0	0	0
MH-2921	696.85	689.09	685.8789	47	1	0	10.9711	12.566	0	0	0
MH-2922	702.44	690.28	689.6903	46	21	0	12.7497	12.566	0	0	0
MH-2933	692.47	684.69	685.8924	47	1	1.2024	6.5776	12.566	0	0	0
MH-2939	705.43	695.09	694.4925	46	16	0	10.9375	12.566	0	0	0
MH-2960	699.96	691.88	691.2876	46	16	0	8.6724	12.566	0	0	0
MH-2975	698	680.0467	685.1395	47	1	5.0928	12.8605	12.566	0	0	0
MH-2976	698.01	680.9267	685.3862	47	2	4.4595	12.6238	12.566	0	0	0
MH-2978	698.89	681.7267	685.6132	47	1	3.8865	13.2768	12.566	0	0	0
MH-3072	698.54	689.38	689.1057	46	18	0	9.4343	12.566	0	0	0
MH-3073	700.04	690.46	690.1604	46	17	0	9.8796	12.566	0	0	0
MH-3074	702.25	691.34	691.0376	46	16	0	11.2124	12.566	0	0	0
MH-3075	706.07	694.41	693.9294	46	18	0	12.1406	12.566	0	0	0
MH-3076	709.37	696.62	696.1394	46	17	0	13.2306	12.566	0	0	0
MH-3078	710	698.82	698.3401	46	16	0	11.6599	12.566	0	0	0
MH-3079	708.94	701.28	700.7999	46	15	0	8.1401	12.566	0	0	0
MH-3080	693.25	681.09	685.5306	47	1	4.4406	7.7194	12.566	0	0	0
MH-3081	690.5	682.79	686.2208	47	1	3.4308	4.2792	12.566	0	0	0
MH-3082	694.34	685.11	686.9605	47	1	1.8505	7.3795	12.566	0	0	0
MH-3083	695.83	687.08	687.0298	47	1	0	8.8002	12.566	0	0	0
MH-3086	697.88	687.13	687.2103	47	1	0.0803	10.6697	12.566	0	0	0
MH-3087	698.06	689.18	688.0896	46	58	0	9.9704	12.566	0	0	0
MH-3200	681.42	672.85	671.8264	46	52	0	9.5936	12.566	0	0	0
MH-3204	685.4	672.26	669.7472	46	51	0	15.6528	12.566	0	0	0
MH-3207	684.51	671.75	670.4785	46	53	0	14.0315	12.566	0	0	0
MH-4634	701.25	693.59	692.9514	46	15	0	8.2986	12.566	0	0	0
MH-16260	705.51	694.88	694.2868	46	24	0	11.2232	12.566	0	0	0
MH-16261	706.26	695.38	694.7696	46	20	0	11.4904	12.566	0	0	0
MH-16262	705.11	696.28	695.6529	46	16	0	9.4571	12.566	0	0	0
MH-16263	706.02	696.58	695.953	46	20	0	10.067	12.566	0	0	0
MH-16264	706.73	697.07	696.4398	46	17	0	10.2902	12.566	0	0	0
MH-16265	707.89	697.51	696.8908	46	15	0	10.9992	12.566	0	0	0
MH-16266	706.71	694.37	691.7599	46	21	0	14.9501	12.566	0	0	0
MH-635	676.2	669.92	668.887	46	16	0	7.313	12.566	0	0	0
MH-1005	682.65	678.49	671.6218	46	15	0	11.0282	12.566	0	0	0
MH-1006	689.42	681.09	680.5724	46	15	0	8.8476	12.566	0	0	0
MH-2646	683.4	673.15	672.32	0	0	0	11.08	12.566	0	0	0
MH-4319	679	670.79	670.11	0	0	0	8.89	12.566	0	0	0
MH-4320	683	672.44	671.59	0	0	0	11.41	12.566	0	0	0
MH-4321	677.62	670.85	670.2442	46	17	0	7.3758	12.566	0	0	0
MH-604	685.1	674.55	666.644	46	17	0	18.456	12.566	0	0	0
MH-634	679	668.26	667.7111	46	17	0	11.2889	12.566	0	0	0
MH-2841	678	673.76	667.9499	46	49	0	10.0501	12.566	0	0	0
MH-2842	679.5	674.74	674.2658	46	17	0	5.2342	12.566	0	0	0
MH-2843	682.25	675.55	675.0712	46	15	0	7.1788	12.566	0	0	0
MH-3208	680	665.87	664.5745	46	51	0	15.4255	12.566	0	0	0
MH-3209	679	667.4	666.3447	46	51	0	12.6553	12.566	0	0	0
MH-3210	678	668.43	667.3866	46	50	0	10.6134	12.566	0	0	0
MH-4343	678	674.04	673.5826	46	16	0	4.4174	12.566	0	0	0
MH-4344	684.5	675.19	674.7218	46	15	0	9.7782	12.566	0	0	0
MH-602	675.4	663.95	663.4438	46	18	0	11.9562	12.566	0	0	0
MH-603	680	665.55	665.0441	46	17	0	14.9559	12.566	0	0	0
MH-621	687.5	676.09	675.5849	46	17	0	11.9151	12.566	0	0	0
MH-622	690	678.1	677.5994	46	16	0	12.4006	12.566	0	0	0
MH-624	690	680.16	679.6581	46	15	0	10.3419	12.566	0	0	0

Table 15
50-Year (June 19, 2009) Recurrence Interval Event - Modeling Results - Existing Conditions
Pipe Summary - South Basin

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Proposed Pipe Diameter (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends Upstream (ft)	Maximum Water Elevation at Pipe Ends Downstream (ft)	Ratio d/D US	Ratio d/D DS
P-795	1.0234	2.9026	8.04		0.0246	46	16	1.1916	46	17	0.0241	694.4925	693.1893	0.108	0.103
P-796	0.9213	2.6131	8.04		0.0418	46	21	1.2812	46	21	0.0454	691.7599	690.5113	0.149	0.136
P-797	0.8878	2.5434	8		0.508	47	59	2.4745	44	47	0.5722	685.8566	685.6132	5.995	6.83
P-798	0.9147	2.6205	8		0.5066	47	0	2.4536	43	18	0.5538	685.6132	685.3862	6.83	7.689
P-799	0.9158	2.6236	8		0.5324	47	41	2.4264	43	5	0.5813	685.3862	685.1395	7.689	8.639
P-800	0.9085	2.6023	8.0004		0.56	47	42	2.4288	0	15	0.6165	685.1395	684.8888	8.639	9.598
P-587	1.9652	3.6035	9.9996		1.8625	47	5	3.796	42	48	0.9477	684.8889	684.1715	7.679	7.862
P-589	2.0335	3.7287	9.9996		1.8692	47	10	3.7793	0	12	0.9192	684.1715	683.4421	7.862	8.127
P-591	2.0403	3.7409	10	15	3.0716	47	3	5.3918	47	3	1.5054	683.4421	681.4587	8.127	6.886
P-592	1.9969	3.6613	10	15	3.0736	47	4	5.4372	47	4	1.5392	681.4587	679.4451	6.886	5.562
P-594	1.9572	3.5887	9.9996	15	3.9026	47	59	6.9661	47	59	1.994	679.4451	676.0933	5.574	2.608
P-596	2.8093	5.1511	9.9996	15	3.9026	47	59	7.1446	47	0	1.3892	676.0933	672.986	2.608	0.871
P-1055	12.484	5.1902	21		4.4941	46	52	4.7635	46	52	0.36	672.986	671.8264	0.415	0.415
P-1056	12.1716	5.0604	21		4.4941	46	53	4.6756	46	54	0.3692	671.8264	670.7357	0.421	0.42
P-1057	12.7218	5.2891	21		4.4941	46	53	4.8307	46	54	0.3533	670.4785	669.758	0.411	0.41
P-281	1.5457	4.3841	8.04		0.3246	46	15	3.1834	46	16	0.21	681.6479	678.5847	0.34	0.246
P-282	2.4502	6.9497	8.04		0.3243	46	16	4.8174	46	16	0.1324	678.5847	673.2244	0.246	0.245
P-525	1.1042	3.1318	8.04		0.5351	46	14	3.0473	45	20	0.4847	680.3064	680.0473	0.771	2.13
P-536	1.1188	3.1733	8.04		0.5249	46	17	2.939	43	15	0.4691	680.0473	679.7401	2.13	3.911
P-538	1.1367	3.2242	8.04		0.5206	46	19	2.8493	42	45	0.458	679.7401	679.4451	3.911	5.754
P-739	1.4445	2.6698	9.96		0.3411	46	15	1.9547	42	43	0.2362	679.5054	679.4754	3.814	4.525
P-737	1.4754	2.7268	9.96		0.3358	46	17	1.7159	42	27	0.2276	679.4754	679.4451	4.525	5.283
P-565	1.3565	3.8475	8.04		0.5368	46	15	3.5464	45	16	0.3957	684.1826	683.9344	0.84	3.275
P-569	1.3565	3.8475	8.04		0.5281	46	14	3.3851	43	16	0.3893	683.9345	683.6838	3.275	5.707
P-571	1.4675	4.1623	8.04		0.5206	46	16	4.4619	0	4	0.3547	683.6838	683.4421	5.707	8.615
P-766	2.4801	7.0346	8.04		0.4624	45	53	4.6488	45	53	0.1865	687.1076	684.506	0.265	4.009
P-768	0.9118	2.5862	8.04		0.3957	45	53	2.4368	45	18	0.4339	684.5059	684.4262	4.009	4.666
P-681	1.0876	3.0847	8.04		0.3821	47	41	6.4102	0	4	0.3513	684.4262	684.3238	4.666	5.946
P-683	0.702	1.9912	8.04		0.4049	47	42	1.893	43	5	0.5767	684.3238	684.2227	5.946	6.392
P-692	1.3671	3.8776	8.04		0.7258	46	46	3.5086	42	48	0.5309	684.2226	683.6455	6.392	8.993
P-693	1.4663	2.71	9.96		0.7229	46	46	2.1405	42	44	0.493	683.6455	683.4421	7.26	8.159
P-263	1.121	3.1796	8.04		0.4762	46	15	2.991	46	16	0.4248	690.1221	688.838	0.466	0.43
P-610	1.2522	3.5516	8.04		0.476	46	16	3.2944	46	17	0.3801	688.838	687.5231	0.43	0.423
P-611	1.279	3.6278	8.04		0.4756	46	17	3.3581	46	18	0.3719	687.5231	686.2028	0.423	0.422
P-833	1.4807	4.1999	8.04		0.2597	46	15	3.1583	46	15	0.1754	700.7999	698.3401	0.283	0.284
P-835	1.4813	4.2015	8.04		0.2595	46	16	3.1553	46	17	0.1752	698.3401	696.1394	0.284	0.283
P-837	1.4882	4.2211	8.04		0.2594	46	17	12.6873	0	4	0.1743	696.1394	693.9294	0.283	0.283
P-841	1.4865	4.2162	8.04		0.2592	46	18	2.7725	46	18	0.1744	693.9294	691.0376	0.283	0.549
P-844	0.9982	2.8311	8.04		0.582	46	16	2.9355	46	16	0.5831	691.0376	690.1604	0.549	0.553
P-845	0.9853	2.7947	8.04		0.5818	46	18	2.8848	46	17	0.5904	690.1604	689.1057	0.553	0.591
P-1996	0.8808	2.4982	8.04		0.5817	46	19	2.7161	46	19	0.6604	689.1057	688.8675	0.591	0.534
P-864	1.6033	4.5475	8.04		0.5817	46	19	5.2194	0	10	0.3628	688.0896	687.2103	0.417	1.12
P-872	1.5247	4.3246	8.04		0.5706	45	53	3.9704	45	42	0.3742	687.2103	686.9605	1.12	3.762
P-873	2.0906	5.9296	8.04		0.3974	45	47	3.7926	45	15	0.1901	687.0298	686.9605	0.925	4.777
P-876	1.3205	3.7453	8.04		0.9455	46	16	3.9503	44	47	0.7161	686.9605	686.2208	4.777	6.121
P-881	1.3799	3.9139	8.04		0.9374	46	18	3.9611	43	12	0.6793	686.2208	685.5306	6.121	7.628
P-883	1.3234	3.7536	8.04		0.9282	46	19	3.831	43	7	0.7014	685.5306	684.8888	7.628	8.879
P-792	0.9153	2.5962	8.04		0.0261	46	16	1.136	46	16	0.0285	691.2876	689.6903	0.116	0.12
P-788	0.9176	2.6027	8.04		0.0259	46	21	1.8694	0	8	0.0282	689.6903	688.4913	0.12	0.106
P-2328	4.0261	11.4195	8.04		0.1085	46	45	4.2587	0	1	0.0269	692.9514	685.8924	0.047	2.795
P-786	0.9122	2.5873	8.04		0.2036	47	40	1.3248	47	44	0.2232	685.8789	685.8566	4.267	5.965
P-17598	0.8621	2.4452	8.04		0.0088	46	16	0.7338	46	17	0.0102	696.8908	696.4398	0.076	0.059
P-17599	1.2023	3.4101	8.04		0.0088	46	18	2.0649	0	4	0.0073	696.4398	695.953	0.059	0.064
P-17600	1.0386	2.9459	8.04		0.0087	46	20	2.5651	0	19	0.0084	695.953	694.7696	0.064	0.089
P-17601	1.0499	2.978	8.04		0.0088	46	16	0.846	46	15	0.0084	695.6529	694.7696	0.064	0.089
P-17602	1.0612	3.0099	8.04		0.0174	46	20	1.2181	0	4	0.0164	694.7696	694.2868	0.089	0.115
P-17604	0.729	2.0677	8.04		0.0174	46	24	1.3937	0	16	0.0239	694.2868	693.7584	0.115	0.087
P-783	0.8808	2.4982	8.04		0.1222	47	29	0.9609	47	32	0.1388	685.8924	685.8789	2.795	4.267
P-287	1.4614	4.1449	8.04		0.1656	46	15	2.7434	46	16	0.1133	680.5724	677.9718	0.228	0.227
P-1888	1.9056	3.5221	9.96		0.2979	46	15	2.5581	46	16	0.1563	671.6218	670.2442	0.267	0.27
P-1887	1.866	3.4487	9.96		0.2975	46	17	2.5213	46	17	0.1594	670.2442	669.3137	0.27	0.27
P-1885	1.396	3.9594	8.04		0	0	0	0	0	0	0	670.11	670.11	0	0
P-1884	1.4066	3.9895	8.04		0	0	0	0	0	0	0	670.11	668.887	0	0
P-2991	0.8028	2.277	8.04		0	0	0	0	0	0	0	669.7472	669.7472	0	0
P-600	1.9414	3.5882	9.96		0	0	0	0	0	0	0	672.32	672.32	0	0
P-601	1.8314	3.3849	9.96		0	0	0	0	0	0	0	671.6218	671.6218	0	0
P-1059	11.863	4.9321	21		4.6051	46	52	4.6188	46	53	0.3882	669.7472	668.4168	0.433	0.432
P-1060	14.7317	6.1247	21		4.9425	46	50	5.4943	46	50	0.3355	667.9499	667.3866	0.4	0.404
P-1061	14.491	6.0247	21		4.9426	46	50	5.4436	46	51	0.3411	667.3866	666.3447	0.404	0.397
P-1062	14.8742	6.184	21		4.9426	46	51	5.5564	46	52	0.3323	666.3447	664.8145	0.397	0.397
P-1943	0.9226	2.6167	8.04		0.1821	46	15	2.0193	46	15	0.1974	674.7218	673.5826	0.301	0.317
P-1944	0.8643	2.4516	8.04		0.1818	46	17	1.9123	46	17	0.2104	673.5826	673.285	0.317	0.291
P-753	0.9328	2.6456	8.04		0.1657	46	15	1.99	46	15	0.1777	675.0712	674.2658	0.285	0.292
P-760	0.9164	2.5994	8.04		0.1652	46	17	1.9386	46	17	0.1803	674.2658	673.2759	0.292	0.277
P-254	2.139	3.9533	9.96		0.479	46	16	3.1623	46	16	0.2239	668.887	667.7111	0.322	0.339
P-255	1.9378	3.5815	9.96		0.4789	46	17	2.904	46	17	0.2471	667.7111	666.644	0.339	0.39
P-242	1.4403	4.0851	8.04		0.1988	46	15	2.8642	46	15	0.138	679.6581	677.5994	0.251	0.253
P-243	1.4437	4.0947	8.04		0.1987	46	16	2.8466	46	17	0.1376	677.5994	675.5849	0.253	0.246
P-244	1.4967	4.245	8.04		0.1985	46	17	3.6456	0	4	0.1326	675.5849	674.0446	0.246	0.246
P-1889	2.5618	4.7348	9.96		0.8255	46	17	4.2185	46	17	0.3222	666.644	665.0441	0.39	0.39
P-1890	2.5618	4.7348	9.96		0.8255	46	18	4.2176	46	18	0.3222	665.0441	663.4438	0.39	0.39
GATE	#	1	Undefnd		4.9426	46	51								
GATE	#	2	Undefnd		0.8255	46	18								

Table 16
100-Year Recurrence Interval Event - Modeling Results - Existing Conditions
Manhole Summary - South Basin

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-993	689	682.09	681.6584	46	15	0	7.3416	12.566	0	0	0
MH-999	683.01	674.01	673.0247	46	48	0	9.9853	12.566	0	0	0
MH-1001	685.92	679.09	678.5921	46	16	0	7.3279	12.566	0	0	0
MH-2496	685.3	676.26	680.673	46	51	4.413	4.627	12.566	0	0	0
MH-2497	687.62	677.79	681.031	46	50	3.241	6.589	12.566	0	0	0
MH-2499	690.87	679.29	681.4011	46	50	2.1111	9.4689	12.566	0	0	0
MH-2507	691.29	680.46	681.7029	46	49	1.2429	9.5871	12.566	0	0	0
MH-2592	687.8	676.5533	683.0145	46	51	6.4612	4.7855	12.566	0	0	0
MH-2594	691.34	678.34	685.3102	46	53	6.9702	6.0298	12.566	0	0	0
MH-2598	693.94	680.53	685.605	46	51	5.075	8.335	12.566	0	0	0
MH-2599	692.41	682.41	685.9114	46	50	3.5014	6.4986	12.566	0	0	0
MH-2610	692.87	684.29	686.2273	46	49	1.9373	6.6427	12.566	0	0	0
MH-2630	694	678.4533	686.1467	46	55	7.6934	7.8533	12.566	0	0	0
MH-2631	697.74	686.59	686.9691	46	56	0.3791	10.7709	12.566	0	0	0
MH-2645	683.5	674.7533	676.7085	46	51	1.9551	6.7915	12.566	0	0	0
MH-2707	696.91	687.91	687.5568	46	51	0	9.3532	12.566	0	0	0
MH-2709	696.97	689.22	688.8523	46	16	0	8.1177	12.566	0	0	0
MH-2743	697.98	690.48	690.1379	46	15	0	7.8421	12.566	0	0	0
MH-2831	685.54	678.45	685.54	46	47	7.09	0	12.566	0	0	0
MH-2833	687.69	680.61	686.2441	46	50	5.6341	1.4459	12.566	0	0	0
MH-2835	689.67	681.01	686.3674	46	50	5.3574	3.3026	12.566	0	0	0
MH-2836	690.3	681.97	686.492	46	50	4.522	3.808	12.566	0	0	0
MH-2839	686.55	676.55	680.7103	46	50	4.1603	5.8397	12.566	0	0	0
MH-2840	683.76	677.17	680.7472	46	50	3.5772	3.0128	12.566	0	0	0
MH-2895	690.15	682.49	686.5888	46	50	4.0988	3.5612	12.566	0	0	0
MH-2898	695.43	687.6	687.2027	46	49	0	8.2273	12.566	0	0	0
MH-2920	694.86	691.09	687.9963	46	55	0	6.8637	12.566	0	0	0
MH-2921	696.85	689.09	688.0113	46	56	0	8.8387	12.566	0	0	0
MH-2922	702.44	690.28	689.6934	46	20	0	12.7466	12.566	0	0	0
MH-2933	692.47	684.69	688.0198	46	55	3.3298	4.4502	12.566	0	0	0
MH-2939	705.43	695.09	694.4955	46	16	0	10.9345	12.566	0	0	0
MH-2960	699.96	691.88	691.291	46	16	0	8.669	12.566	0	0	0
MH-2975	698	680.0467	687.2352	46	56	7.1885	10.7648	12.566	0	0	0
MH-2976	698.01	680.9267	687.497	46	56	6.5704	10.513	12.566	0	0	0
MH-2978	698.89	681.7267	687.738	46	56	6.0113	11.152	12.566	0	0	0
MH-3072	698.54	689.38	689.937	47	59	0.557	8.603	12.566	0	0	0
MH-3073	700.04	690.46	690.3366	47	59	0	9.7034	12.566	0	0	0
MH-3074	702.25	691.34	691.0582	46	16	0	11.1918	12.566	0	0	0
MH-3075	706.07	694.41	693.938	46	18	0	12.132	12.566	0	0	0
MH-3076	709.37	696.62	696.1479	46	17	0	13.2221	12.566	0	0	0
MH-3078	710	698.82	698.3487	46	16	0	11.6513	12.566	0	0	0
MH-3079	708.94	701.28	700.8085	46	15	0	8.1315	12.566	0	0	0
MH-3080	693.25	681.09	687.7116	46	57	6.6216	5.5384	12.566	0	0	0
MH-3081	690.5	682.79	688.5099	46	58	5.7199	1.9901	12.566	0	0	0
MH-3082	694.34	685.11	689.3639	46	58	4.2539	4.9761	12.566	0	0	0
MH-3083	695.83	687.08	689.4546	46	58	2.3746	6.3754	12.566	0	0	0
MH-3086	697.88	687.13	689.6611	47	59	2.5311	8.2189	12.566	0	0	0
MH-3087	698.06	689.18	689.8449	47	59	0.6649	8.2151	12.566	0	0	0
MH-3200	681.42	672.85	671.8656	46	49	0	9.5544	12.566	0	0	0
MH-3204	685.4	672.26	669.7881	46	50	0	15.6119	12.566	0	0	0
MH-3207	684.51	671.75	670.5166	46	50	0	13.9934	12.566	0	0	0
MH-4634	701.25	693.59	692.9523	45	45	0	8.2977	12.566	0	0	0
MH-16260	705.51	694.88	694.2901	46	24	0	11.2199	12.566	0	0	0
MH-16261	706.26	695.38	694.772	46	20	0	11.488	12.566	0	0	0
MH-16262	705.11	696.28	695.6528	46	15	0	9.4572	12.566	0	0	0
MH-16263	706.02	696.58	695.9529	46	20	0	10.0671	12.566	0	0	0
MH-16264	706.73	697.07	696.4417	46	17	0	10.2883	12.566	0	0	0
MH-16265	707.89	697.51	696.893	46	15	0	10.997	12.566	0	0	0
MH-16266	706.71	694.37	691.7642	46	21	0	14.9458	12.566	0	0	0
MH-635	676.2	669.92	668.8455	46	18	0	7.3545	12.566	0	0	0
MH-1005	682.65	678.49	671.6319	46	15	0	11.0181	12.566	0	0	0
MH-1006	689.42	681.09	680.5791	46	15	0	8.8409	12.566	0	0	0
MH-2646	683.4	673.15	672.32	0	0	0	11.08	12.566	0	0	0
MH-4319	679	670.79	670.11	0	0	0	8.89	12.566	0	0	0
MH-4320	683	672.44	671.59	0	0	0	11.41	12.566	0	0	0
MH-4321	677.62	670.85	670.2543	46	17	0	7.3657	12.566	0	0	0
MH-604	685.1	674.55	666.6215	46	18	0	18.4785	12.566	0	0	0
MH-634	679	668.26	667.6671	46	19	0	11.3329	12.566	0	0	0
MH-2841	678	673.76	667.9868	46	49	0	10.0132	12.566	0	0	0
MH-2842	679.5	674.74	674.2748	46	17	0	5.2252	12.566	0	0	0
MH-2843	682.25	675.55	675.0799	46	15	0	7.1701	12.566	0	0	0
MH-3208	680	665.87	664.6105	46	51	0	15.3895	12.566	0	0	0
MH-3209	679	667.4	666.3812	46	51	0	12.6188	12.566	0	0	0
MH-3210	678	668.43	667.4237	46	50	0	10.5763	12.566	0	0	0
MH-4343	678	674.04	673.5923	46	16	0	4.4077	12.566	0	0	0
MH-4344	684.5	675.19	674.7311	46	15	0	9.7689	12.566	0	0	0
MH-602	675.4	663.95	663.4214	46	19	0	11.9786	12.566	0	0	0
MH-603	680	665.55	665.0215	46	18	0	14.9785	12.566	0	0	0
MH-621	687.5	676.09	675.5923	46	17	0	11.9077	12.566	0	0	0
MH-622	690	678.1	677.6069	46	16	0	12.3931	12.566	0	0	0
MH-624	690	680.16	679.6656	46	15	0	10.3344	12.566	0	0	0

Table 16
100-Year Recurrence Interval Event - Modeling Results - Existing Conditions
Manhole Summary - South Basin

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Proposed Pipe Diameter (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends Upstream (ft)	Maximum Water Elevation at Pipe Ends Downstream (ft)	Ratio d/D US	Ratio d/D DS
P-795	1.0234	2.9026	8.04		0.0268	46	16	1.2276	46	17	0.0262	694.4955	693.1927	0.113	0.109
P-796	0.9213	2.6131	8.04		0.0456	46	21	1.3175	46	21	0.0495	691.7642	690.5155	0.155	0.142
P-797	0.8878	2.5434	8		0.5435	46	20	2.4527	43	19	0.6122	687.9963	687.738	9.204	10.02
P-798	0.9147	2.6205	8		0.5386	46	33	2.4886	43	6	0.5888	687.738	687.497	10.02	10.86
P-799	0.9158	2.6236	8		0.5448	47	32	2.4453	42	56	0.5949	687.497	687.2352	10.86	11.78
P-800	0.9085	2.6023	8.0004		0.5784	47	40	2.4288	0	15	0.6367	687.2352	686.969	11.78	12.72
P-587	1.9652	3.6035	9.9996	12	2.0302	47	12	3.8108	42	43	1.0331	686.9691	686.1467	10.18	10.23
P-589	2.0335	3.7287	9.9996	12	2.0447	47	19	3.7793	0	12	1.0055	686.1467	685.3102	10.23	10.37
P-591	2.0402	3.7408	9.9996	15	3.3527	47	1	5.8077	47	1	1.6433	685.3102	683.0145	10.37	8.754
P-592	1.9967	3.6612	9.9996	15	3.3555	47	3	5.8716	47	3	1.6805	683.0145	680.673	8.754	7.036
P-594	1.9574	3.5888	10	15	4.2756	46	52	7.5655	46	52	2.1844	680.673	676.7085	7.048	3.346
P-596	2.8093	5.1511	9.9996	15	4.2757	46	52	7.7661	46	52	1.522	676.7085	673.0247	3.346	0.918
P-1055	12.484	5.1902	21		4.9323	46	48	4.8832	46	49	0.3951	673.0247	671.8656	0.437	0.437
P-1056	12.1716	5.0604	21		4.9321	46	50	4.7939	46	51	0.4052	671.8656	670.7754	0.443	0.443
P-1057	12.7218	5.2891	21		4.9322	46	50	4.9522	46	51	0.3877	670.5166	669.7962	0.432	0.432
P-281	1.5457	4.3841	8.04		0.354	46	15	3.2641	46	16	0.229	681.6584	678.5921	0.356	0.257
P-282	2.4502	6.9497	8.04		0.3537	46	16	4.9345	46	16	0.1443	678.5921	673.2316	0.257	0.256
P-525	1.1042	3.1318	8.04		0.5828	46	15	3.0589	44	45	0.5278	681.7029	681.4011	2.855	4.151
P-536	1.1188	3.1733	8.04		0.5753	46	17	2.9796	43	2	0.5142	681.4011	681.031	4.151	5.837
P-538	1.1367	3.2242	8.04		0.5695	46	20	2.8721	42	41	0.501	681.031	680.673	5.837	7.587
P-739	1.4445	2.6698	9.96		0.3706	46	15	1.9778	42	40	0.2565	680.7472	680.7103	5.31	6.012
P-737	1.4754	2.7268	9.96		0.3647	46	18	1.7306	42	28	0.2472	680.7103	680.673	6.012	6.763
P-565	1.3565	3.8475	8.04		0.5794	46	17	3.5509	44	45	0.4272	686.2273	685.9114	3.891	6.226
P-569	1.3565	3.8475	8.04		0.5701	46	18	3.4369	43	2	0.4203	685.9114	685.605	6.226	8.575
P-571	1.4675	4.1623	8.04		0.5679	46	50	4.4619	0	4	0.387	685.605	685.3102	8.575	11.4
P-766	2.4801	7.0346	8.04		0.4443	45	21	4.5794	45	22	0.1792	687.2027	686.5888	0.407	7.118
P-768	0.9118	2.5862	8.04		0.4114	46	22	2.4019	44	38	0.4512	686.5888	686.492	7.118	7.749
P-681	1.0876	3.0847	8.04		0.4095	46	50	6.4102	0	4	0.3765	686.492	686.3674	7.749	8.996
P-683	0.702	1.9912	8.04		0.4098	46	51	1.9124	42	55	0.5838	686.3674	686.2441	8.996	9.409
P-692	1.3671	3.8776	8.04		0.7956	46	50	3.5437	42	44	0.582	686.2441	685.54	9.409	11.82
P-693	1.4663	2.71	9.96		0.7863	46	47	2.1634	42	40	0.5363	685.54	685.3102	9.542	10.41
P-263	1.121	3.1796	8.04		0.5193	46	15	3.0596	46	16	0.4632	690.1379	688.8523	0.489	0.451
P-610	1.2522	3.5516	8.04		0.5191	46	16	3.3708	46	17	0.4145	688.8523	687.5568	0.451	0.473
P-611	1.279	3.6278	8.04		0.5188	46	17	3.4333	46	15	0.4056	687.5567	686.969	0.473	1.566
P-833	1.4807	4.1999	8.04		0.2832	46	15	3.2355	46	15	0.1912	700.8085	698.3487	0.296	0.297
P-835	1.4813	4.2015	8.04		0.283	46	16	3.2324	46	17	0.191	698.3487	696.1479	0.297	0.295
P-837	1.4882	4.2211	8.04		0.2829	46	17	12.6873	0	4	0.1901	696.1479	693.938	0.295	0.295
P-841	1.4865	4.2162	8.04		0.2827	46	18	2.8378	46	18	0.1901	693.938	691.0582	0.295	0.579
P-844	0.9982	2.8311	8.04		0.6347	46	16	2.9948	46	16	0.6359	691.0582	690.3366	0.579	0.816
P-845	0.9853	2.7947	8.04		0.6344	46	18	2.9394	46	13	0.6439	690.3366	689.937	0.816	1.831
P-1996	0.8808	2.4982	8.04		0.628	46	12	2.7747	46	12	0.713	689.937	689.8449	1.831	1.992
P-864	1.6033	4.5475	8.04		0.6198	45	54	5.2194	0	10	0.3866	689.8449	689.6611	3.037	4.778
P-872	1.5247	4.3246	8.04		0.6345	47	22	3.9616	44	52	0.4162	689.6611	689.3639	4.778	7.349
P-873	2.0906	5.9296	8.04		0.415	46	16	3.7917	44	42	0.1985	689.4546	689.3639	4.544	8.364
P-876	1.3205	3.7453	8.04		0.9993	47	0	3.9346	43	19	0.7568	689.3639	688.5099	8.364	9.537
P-881	1.3799	3.9139	8.04		1.006	47	22	4.0011	43	0	0.729	688.5099	687.7116	9.537	10.88
P-883	1.3234	3.7536	8.04		1.0271	47	21	3.8654	42	57	0.7761	687.7116	686.969	10.88	11.98
P-792	0.9153	2.5962	8.04		0.0284	46	16	1.1676	46	16	0.0311	691.291	689.6934	0.121	0.125
P-788	0.9176	2.6027	8.04		0.0283	46	20	1.8694	0	8	0.0308	689.6934	688.4949	0.125	0.112
P-2328	4.0261	11.4195	8.04		0.1505	45	50	4.2587	0	1	0.0374	692.9523	688.0198	0.048	5.97
P-786	0.9122	2.5873	8.04		0.2091	47	56	1.3071	48	1	0.2293	688.0114	687.9963	7.45	9.159
P-17598	0.8621	2.4452	8.04		0.0096	46	16	0.7563	46	17	0.0111	696.893	696.4417	0.079	0.062
P-17599	1.2023	3.4101	8.04		0.0095	46	18	2.0649	0	4	0.0079	696.4417	695.9529	0.062	0.064
P-17600	1.0386	2.9459	8.04		0.0095	46	20	2.5651	0	19	0.0092	695.9529	694.772	0.064	0.093
P-17601	1.0499	2.978	8.04		0.0096	46	16	0.9144	46	16	0.0091	695.6528	694.772	0.064	0.093
P-17602	1.0612	3.0099	8.04		0.019	46	20	1.2181	0	4	0.0179	694.772	694.2901	0.093	0.12
P-17604	0.729	2.0677	8.04		0.019	46	24	1.3937	0	16	0.026	694.2901	693.7607	0.12	0.091
P-783	0.8808	2.4982	8.04		0.1442	47	46	0.999	47	49	0.1637	688.0198	688.0113	5.97	7.45
P-287	1.4614	4.1449	8.04		0.1806	46	15	2.818	46	16	0.1236	680.5791	677.9789	0.237	0.237
P-1888	1.9056	3.5221	9.96		0.3249	46	16	2.624	46	15	0.1705	671.6319	670.2543	0.279	0.282
P-1887	1.866	3.4487	9.96		0.3244	46	17	2.5869	46	18	0.1739	670.2543	669.3242	0.282	0.282
P-1885	1.396	3.9594	8.04		0	0	0	0	0	0	0	670.11	670.11	0	0
P-1884	1.4066	3.9895	8.04		0	0	0	0	0	0	0	670.11	668.8455	0	0
P-2991	0.8028	2.277	8.04		0	0	0	0	0	0	0	669.7881	669.7881	0	0
P-600	1.9414	3.5882	9.96		0	0	0	0	0	0	0	672.32	672.32	0	0
P-601	1.8314	3.3849	9.96		0	0	0	0	0	0	0	671.6319	671.6319	0	0
P-1059	11.863	4.9321	21		5.054	46	51	4.7322	46	52	0.426	669.7881	668.4575	0.456	0.456
P-1060	14.7317	6.1247	21		5.4222	46	50	5.6301	46	52	0.3681	667.9868	667.4237	0.421	0.425
P-1061	14.491	6.0247	21		5.4223	46	50	5.5807	46	51	0.3742	667.4237	666.3812	0.425	0.418
P-1062	14.8742	6.184	21		5.4223	46	51	5.6946	46	52	0.3645	666.3812	664.8505	0.418	0.417
P-1943	0.9226	2.6167	8.04		0.1986	46	15	2.0699	46	15	0.2153	674.7311	673.5923	0.315	0.332
P-1944	0.8643	2.4516	8.04		0.1983	46	17	1.9604	46	17	0.2294	673.5923	673.2939	0.332	0.304
P-753	0.9328	2.6456	8.04		0.1807	46	15	2.0388	46	15	0.1937	675.0799	674.2748	0.298	0.306
P-760	0.9164	2.5994	8.04		0.1802	46	17	1.9862	46	17	0.1966	674.2748	673.2841	0.306	0.29
P-254	2.139	3.9533	9.96		0.3453	46	18	2.8816	46	18	0.1614	668.8455	667.6671	0.272	0.286
P-255	1.9378	3.5815	9.96		0.3451	46	19	2.6031	46	20	0.1781	667.6671	666.6214	0.286	0.363
P-242	1.4403	4.0851	8.04		0.2168	46	15	2.9361	46	15	0.1505	679.6656	677.6069	0.262	0.264
P-243	1.4437	4.0947	8.04		0.2166	46	16	2.9188	46	17	0.1501	677.6069	675.5923	0.264	0.257
P-244	1.4967	4.245	8.04		0.2165	46	17	3.6456	0	4	0.1446	675.5923	674.0517	0.257	0.256
P-1889	2.5618	4.7348	9.96		0.7223	46	18	4.0683	46	18	0.2819	666.6214	665.0215	0.363	0.363
P-1890	2.5618	4.7348	9.96		0.7223	46	19	4.0679	46	19	0.2819	665.0215	663.4214	0.363	0.363
GATE	Undefnd	Undefn	Undefnd		5.4223	46	51								
GATE	Undefnd	Undefn	Undefnd		0.7223	46	19								

APPENDIX F
MODEL OUTPUT–DESIGN SANITARY SYSTEM

Table 1
6-Month Recurrence Interval Event - Modeling Results - Conveyance Design (Same as Existing Conditions for 6-Month RI)
Pipe Summary - North Basin

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-1002	688.01	679.257	678.59	0	0	0	9.42	12.566	0	0	0
MH-1003	680.47	670.887	670.362	46	17	0	10.108	12.566	0	0	0
MH-1004	686.45	679.867	679.29	46	15	0	7.16	12.566	0	0	0
MH-16339	678.6	678.087	677.5188	46	16	0	1.0812	12.566	0	0	0
MH-16365	694.8	686.137	685.6758	46	21	0	9.1242	12.566	0	0	0
MH-16366	692.73	685.257	683.2816	46	20	0	9.4484	12.566	0	0	0
MH-16369	677.35	667.487	660.9198	46	22	0	16.4302	12.566	0	0	0
MH-1822	687.46	675.707	675.1574	46	17	0	12.3026	12.566	0	0	0
MH-1823	692.89	682.807	682.244	46	16	0	10.646	12.566	0	0	0
MH-1824	700.02	689.907	689.345	46	15	0	10.675	12.566	0	0	0
MH-1885	694.17	687.007	686.5392	46	19	0	7.6308	12.566	0	0	0
MH-1886	697.35	688.597	688.0554	46	16	0	9.2946	12.566	0	0	0
MH-1888	698.76	690.177	689.6363	46	15	0	9.1237	12.566	0	0	0
MH-1891	682.47	674.387	672.7713	46	18	0	9.6987	12.566	0	0	0
MH-1893	690.94	681.187	680.6313	46	17	0	10.3087	12.566	0	0	0
MH-1895	696.5	684.587	684.0616	46	15	0	12.4384	12.566	0	0	0
MH-3088	698.25	689.087	688.5192	46	18	0	9.7308	12.566	0	0	0
MH-3089	700.35	690.187	689.6607	46	16	0	10.6893	12.566	0	0	0
MH-3090	699.25	690.917	690.3579	46	15	0	8.8921	12.566	0	0	0
MH-320	660.66	644.41	643.8518	46	47	0	16.8082	12.566	0	0	0
MH-343	660.87	647.813	646.2063	46	47	0	14.6637	12.566	0	0	0
MH-354	660.62	649.886	649.9419	46	31	0.0559	10.6781	12.566	0	0	0
MH-355	666.12	652.105	651.7796	46	30	0	14.3404	12.566	0	0	0
MH-356	670.73	659.087	654.3662	46	29	0	16.3638	12.566	0	0	0
MH-357	662.42	655.81	651.6613	46	16	0	10.7587	12.566	0	0	0
MH-358	666.59	658.5	657.7649	46	15	0	8.8251	12.566	0	0	0
MH-374	666.5	657.5	655.9515	46	28	0	10.5485	12.566	0	0	0
MH-375	664.75	657.12	656.518	46	48	0	8.232	12.566	0	0	0
MH-396	668.15	656.737	656.2251	46	18	0	11.9249	12.566	0	0	0
MH-4199	692.91	676.41	675.5615	46	45	0	17.3485	12.566	0	0	0
MH-466	675.12	663.207	662.6321	46	17	0	12.4879	12.566	0	0	0
MH-467	681.52	672.087	669.1129	46	16	0	12.4071	12.566	0	0	0
MH-468	689.87	679.287	678.7221	46	16	0	11.1479	12.566	0	0	0
MH-470	672.35	661.017	660.4783	46	18	0	11.8717	12.566	0	0	0
MH-471	681.46	670.297	669.7196	46	16	0	11.7404	12.566	0	0	0
MH-472	682.45	673.287	672.7218	46	15	0	9.7282	12.566	0	0	0
MH-5152	670.49	658.649	658.203	46	24	0	12.287	12.566	0	0	0
MH-5174	665.92	655.353	655.3019	46	29	0	10.6181	12.566	0	0	0
MH-5568	658.82	646.99	645.9429	46	32	0	12.8771	12.566	0	0	0
MH-5571	661.85	648.81	647.5659	46	31	0	14.2841	12.566	0	0	0
MH-5572	665.87	652.87	651.17	0	0	0	14.7	12.566	0	0	0
MH-5574	665.94	653.05	650.6306	46	46	0	15.3094	12.566	0	0	0
MH-5724	677.33	667.333	666.8839	46	21	0	10.4461	12.566	0	0	0
MH-6069	660.42	645.72	645.3636	46	47	0	15.0564	12.566	0	0	0
MH-6075	681.16	666.16	665.2671	46	45	0	15.8929	12.566	0	0	0
MH-6090	662.05	649.4	648.6127	46	31	0	13.4373	12.566	0	0	0
MH-6092	682.68	670.347	669.7501	46	15	0	12.9299	12.566	0	0	0
MH-6168	663.92	650.467	649.9597	46	18	0	13.9603	12.566	0	0	0
MH-669	681.05	670.713	670.1892	46	20	0	10.8608	12.566	0	0	0
MH-670	689.72	671.887	670.7767	46	18	0	18.9433	12.566	0	0	0
MH-671	696.64	672.887	672.3431	46	16	0	24.2969	12.566	0	0	0
MH-672	678.61	668.443	667.9915	46	21	0	10.6185	12.566	0	0	0
MH-673	683.22	674.887	674.3036	46	16	0	8.9164	12.566	0	0	0
MH-674	690.96	681.627	681.0443	46	15	0	9.9157	12.566	0	0	0
MH-871	679.09	670.11	669.5593	46	17	0	9.5307	12.566	0	0	0
MH-877	685.75	674.587	674.0347	46	15	0	11.7153	12.566	0	0	0
MH-879	676.54	666.487	665.8999	46	22	0	10.6401	12.566	0	0	0
MH-884	681.49	672.087	664.5653	46	23	0	16.9247	12.566	0	0	0
MH-886	687.77	677.107	676.5351	46	17	0	11.2349	12.566	0	0	0
MH-887	688.81	682.057	681.4845	46	15	0	7.3255	12.566	0	0	0
MH-937	680.8	672.227	671.8411	46	19	0	8.9589	12.566	0	0	0
MH-938	682.09	674.177	673.7172	46	20	0	8.3728	12.566	0	0	0
MH-940	695.96	688.957	688.331	46	15	0	7.629	12.566	0	0	0
MH-943	682.72	674.344	673.794	46	17	0	8.926	12.566	0	0	0
MH-944	686.14	678.35	677.8012	46	15	0	8.3388	12.566	0	0	0
MH-946	691.27	682.357	681.8078	46	15	0	9.4622	12.566	0	0	0
MH-961	679.46	668.457	667.896	46	47	0	11.564	12.566	0	0	0
MH-962	689.04	680.457	679.8572	46	15	0	9.1828	12.566	0	0	0
MH-968	681.12	668.299	667.8195	46	48	0	13.3005	12.566	0	0	0
MH-969	680.17	669.087	668.5976	46	15	0	11.5724	12.566	0	0	0
MH-976	678.37	669.087	663.5128	46	49	0	14.8572	12.566	0	0	0
MH-983	680.15	663.183	662.7766	46	24	0	17.3734	12.566	0	0	0
MH-986	678.74	665.633	665.3762	46	23	0	13.3638	12.566	0	0	0
MH-991	681.04	671.747	670.7063	46	17	0	10.3337	12.566	0	0	0
MH-993	688.87	681.957	681.4039	46	15	0	7.4661	12.566	0	0	0

Table 1
6-Month Recurrence Interval Event - Modeling Results - Conveyance Design (Same as Existing Conditions for 6-Month RI)
Pipe Summary - North Basin

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Proposed Pipe Diameter (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends Upstream (ft)	Maximum Water Elevation at Pipe Ends Downstream (ft)	Ratio d/D US	Ratio d/D DS
P-485	2.4042	6.8805	8.004		0.1274	46	15	3.6161	46	16	0.053	689.345	682.244	0.157	0.156
P-486	2.4128	6.9053	8.004		0.1273	46	16	4.2026	0	11	0.0527	682.244	675.1574	0.156	0.176
P-487	1.8758	5.3683	8.004		0.1271	46	17	2.3879	46	17	0.0678	675.1574	670.1892	0.176	0.464
P-671	2.2315	4.0946	9.996		0.6504	46	21	3.4215	46	21	0.2915	670.1892	667.9915	0.371	0.458
P-2983	2.1464	3.9385	9.996		0.879	46	21	3.6085	46	21	0.4095	667.9915	666.8839	0.458	0.461
P-2985	2.1504	3.9458	9.996		0.8789	46	22	3.4149	46	22	0.4087	666.8839	665.8999	0.461	0.636
P-2981	1.5777	2.8951	9.996		1.0712	46	22	2.9007	46	21	0.679	665.8999	665.3762	0.636	0.692
P-2979	1.5769	2.8935	9.996		1.0711	46	23	2.7593	46	23	0.6792	665.3762	664.5653	0.692	0.487
P-521	2.7888	5.1173	9.996		1.2698	46	23	4.7936	46	23	0.4553	664.5653	662.7766	0.487	0.512
P-522	2.789	5.1177	9.996		1.2697	46	24	4.5563	46	23	0.4552	662.7766	660.9198	0.512	0.48
P-2909	3.4798	6.3852	9.996		1.5102	46	23	8.2215	0	2	0.434	660.9198	658.203	0.48	0.465
P-2910	3.4798	6.3851	9.996		1.5099	46	24	9.2551	0	2	0.4339	658.203	655.9515	0.465	0.938
P-2915	1.6161	2.9655	9.996		1.6327	46	28	4.8441	0	2	1.0103	655.9515	655.3019	0.938	0.939
P-2916	1.6166	2.9664	9.996		1.6325	46	29	3.1919	46	31	1.0098	655.3019	654.3662	0.939	0.596
P-195	2.7139	4.9798	9.996		1.7341	46	29	5.1097	46	29	0.639	654.3662	651.7796	0.596	0.609
P-196	2.7144	4.9807	9.996		1.7339	46	30	4.7901	45	53	0.6388	651.7796	649.9419	0.609	1.067
P-506	1.43	4.0926	8.004		0.1213	46	16	2.3049	46	17	0.0849	684.0616	680.6313	0.212	0.167
P-507	2.0242	5.793	8.004		0.121	46	18	3.1551	46	18	0.0598	680.6313	673.8303	0.167	0.165
P-501	1.3361	3.8238	8.004		0.103	46	15	2.2387	46	16	0.0771	689.6363	688.0554	0.189	0.188
P-502	1.3293	3.8045	8.004		0.1029	46	16	2.065	46	16	0.0774	688.0554	686.5392	0.188	0.299
P-503	0.9141	2.6162	8.004		0.1751	46	19	1.9881	46	19	0.1915	686.5392	685.6758	0.299	0.309
P-504	0.9016	2.5802	8.004		0.1748	46	21	1.924	46	22	0.1938	685.6758	684.7814	0.309	0.287
P-899	1.2808	3.6656	8.004		0.0728	46	15	1.8958	46	15	0.0568	690.3579	689.6607	0.162	0.211
P-901	0.9056	2.5917	8.004		0.0726	46	17	1.4057	46	17	0.0802	689.6607	688.5192	0.211	0.149
P-904	1.5122	4.3279	8.004		0.0725	46	18	3.1206	0	4	0.0479	688.5192	686.5392	0.149	0.299
P-265	3.167	9.0637	8.004		0.0243	46	15	1.8548	46	15	0.0077	688.331	683.2816	0.061	0.197
P-266	3.1056	8.8879	8.004		0.2647	46	20	4.9763	46	19	0.0852	683.2816	673.7172	0.197	0.311
P-505	1.2636	3.6163	8.004		0.2646	46	21	2.7159	46	21	0.2094	673.7172	672.7713	0.311	0.425
P-267	1.2628	3.6141	8.004		0.4517	46	18	3.1986	46	19	0.3577	672.7713	671.8411	0.425	0.421
P-268	1.2635	3.6161	8.004		0.4517	46	19	3.186	46	20	0.3575	671.8411	670.1892	0.421	0.464
P-261	0.9951	2.848	8.004		0.0726	46	16	1.6371	46	16	0.0729	672.3431	671.3412	0.184	0.182
P-262	0.7876	2.254	8.004		0.0725	46	18	0.9981	46	17	0.092	670.7767	670.1892	0.205	0.703
P-269	2.1639	6.1929	8.004		0.1458	46	15	3.4915	46	15	0.0674	681.8078	677.8012	0.177	0.177
P-270	2.1636	6.1921	8.004		0.1457	46	16	3.4786	46	17	0.0674	677.8012	673.794	0.177	0.175
P-271	2.1638	6.1925	8.004		0.1456	46	17	2.5176	46	16	0.0673	673.794	667.9915	0.175	0.572
P-263	2.5185	7.2078	8.004		0.0849	46	15	3.3095	46	16	0.0337	681.0443	674.3036	0.126	0.125
P-264	2.5251	7.2266	8.004		0.0848	46	16	1.9528	46	15	0.0336	674.3036	667.9915	0.125	0.572
P-272	3.2315	9.2483	8.004		0.0693	46	15	3.409	46	15	0.0214	679.8572	667.896	0.101	0.159
P-273	1.2929	3.7002	8.004		0.0691	46	47	1.9357	46	47	0.0534	667.896	665.9244	0.159	0.157
P-259	1.941	5.5551	8.004		0.1246	46	15	3.0958	46	15	0.0642	674.0347	669.5593	0.172	0.174
P-260	1.9413	5.5558	8.004		0.1244	46	17	3.0436	46	17	0.0641	669.5593	665.9338	0.174	0.171
P-278	1.8801	5.3806	8.004		0.1176	46	16	2.961	46	16	0.0625	681.4039	677.5325	0.171	0.169
P-277	2.4706	7.0705	8.004		0.1175	46	16	3.5855	46	16	0.0476	677.5188	670.7063	0.148	0.159
P-283	2.1307	6.0978	8.004		0.1174	46	17	2.1594	46	47	0.0551	670.7063	664.5653	0.159	0.608
P-284	2.9795	8.5271	8.004		0	0	0	0	0	0	0	670.7063	670.7063	0	0
P-257	1.9186	5.4908	8.004		0.083	46	15	2.7223	46	15	0.0432	681.4845	676.5351	0.142	0.143
P-258	1.9321	5.5295	8.004		0.0828	46	17	2.7018	46	18	0.0428	676.5351	671.5131	0.143	0.14
P-308	3.0003	8.5867	8.004		0.1177	46	15	3.8019	46	15	0.0392	679.29	670.362	0.135	0.213
P-311	1.201	3.4372	8.004		0.1173	46	17	2.1569	46	17	0.0977	670.362	668.5604	0.213	0.21
P-276	1.202	3.4401	8.004		0.1172	46	49	2.1394	46	49	0.0975	663.5128	661.5602	0.214	0.21
P-275	0.8076	2.3113	8.004		0.1241	46	48	1.5714	46	49	0.1536	667.8195	666.9807	0.281	0.241
P-208	2.2051	6.3109	8.004		0.1105	46	16	3.2599	46	16	0.0501	678.7221	671.5209	0.153	0.151
P-207	2.6764	7.6596	8.004		0.1105	46	16	3.7272	46	17	0.0413	669.1129	662.6321	0.139	0.138
P-205	2.6816	7.6744	8.004		0.1105	46	17	16.5301	0	2	0.0412	662.6321	656.2251	0.138	0.232
P-204	0.9306	2.6633	8.004		0.1104	46	18	1.5522	42	47	0.1186	656.2251	655.9515	0.232	0.677
P-199	0.9548	2.7327	8.004		0.0189	46	45	1.0713	46	45	0.0198	657.7649	656.518	0.097	0.097
P-202	0.9429	2.6985	8.004		0.0188	46	48	0.7864	42	35	0.02	656.518	655.9515	0.097	0.677
P-211	2.2668	6.4873	8.004		0.1037	46	15	3.119	46	16	0.0458	672.7218	669.7196	0.153	0.134
P-209	2.6625	7.62	8.004		0.1036	46	16	3.4449	46	15	0.0389	669.7196	660.4783	0.134	0.192
P-210	1.3029	3.7288	8.004		0.1034	46	18	2.8969	0	2	0.0793	660.4783	658.5466	0.192	0.19
P-3077	21.7997	12.3361	18		7.7868	46	45	10.6763	46	45	0.3572	675.5615	665.2671	0.434	0.405
P-3073	26.1881	14.8194	18		7.7836	46	46	11.7265	46	46	0.2972	665.2671	652.11	0.405	0.373
P-3067	15.7527	8.9142	18		7.7831	46	46	7.7248	46	46	0.4941	650.6306	646.2063	0.514	1.111
P-3069	5.5605	3.1466	18		7.9521	46	47	4.4035	46	47	1.4301	646.2063	645.3636	1.111	0.762
P-3070	11.0648	6.2614	18		7.9519	46	47	5.6098	46	48	0.7187	645.3636	643.8518	0.762	0.628
P-3088	3.55	10.1599	8.004		0.083	46	15	3.4144	46	15	0.0234	669.7501	651.6613	0.105	0.242
P-3092	1.4511	4.1529	8.004		0.1815	46	17	2.7892	46	18	0.1251	651.6613	649.9597	0.242	0.239
P-3093	1.443	4.1297	8.004		0.1814	46	18	2.3376	0	2	0.1257	649.9597	648.6127	0.239	0.739
P-17061	13.1123	10.6849	15		1.911	46	31	4.8138	46	31	0.1457	648.6127	647.8816	0.37	0.257
P-2956	9.9182	5.6125	18		0	0	0	0	0	0	0	651.17	651.17	0	0
P-2957	14.0776	7.9663	18		0	0	0	0	0	0	0	651.17	647.5659	0	0
P-2958	8.7309	4.9407	18		1.7364	46	32	3.7234	46	32	0.1989	647.5659	645.9429	0.311	0.302
P-197	1.6806	3.0839	9.996		1.7337	46	31	3.277	47	19	1.0315	649.9419	648.6127	1.067	0.592
P-274	0.8077	2.3116	8.004		0.1245	46	16	1.6548	46	16	0.1542	668.5976	667.8195	0.266	0.281
P-2917	1.6007	2.9584	9.96		0	0	0	0	0	0	0	654.3662	654.3662	0	0
P-198	3.6852	6.811	9.96		0.0987	46	15	2.8747	46	15	0.0268	657.7649	655.0724	0.114	0.111
P-1000	3.0205	5.5424	9.996		0.1745	46	31	3.0126	46	32	0.0578	647.5659	647.1156	0.163	0.163
FREE	#	1	Undefnd		Undefnd	Undefn	7.9519	46	47						
FREE	#	2	Undefnd		Undefnd	Undefn	1.7364	46	32						

Table 2
1-Year Recurrence Interval Event - Modeling Results - Conveyance Design (Same as Existing Conditions for 1-Year RI)
Pipe Summary - North Basin

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-1002	688.01	679.257	678.59	0	0	0	9.42	12.566	0	0	0
MH-1003	680.47	670.887	670.3752	46	17	0	10.0948	12.566	0	0	0
MH-1004	686.45	679.867	679.298	46	15	0	7.152	12.566	0	0	0
MH-16339	678.6	678.087	677.5278	46	16	0	1.0722	12.566	0	0	0
MH-16365	694.8	686.137	685.6978	46	21	0	9.1022	12.566	0	0	0
MH-16366	692.73	685.257	683.2947	46	19	0	9.4353	12.566	0	0	0
MH-16369	677.35	667.487	660.9572	46	23	0	16.3928	12.566	0	0	0
MH-1822	687.46	675.707	675.1692	46	17	0	12.2908	12.566	0	0	0
MH-1823	692.89	682.807	682.2541	46	16	0	10.6359	12.566	0	0	0
MH-1824	700.02	689.907	689.3553	46	15	0	10.6647	12.566	0	0	0
MH-1885	694.17	687.007	686.5603	46	18	0	7.6097	12.566	0	0	0
MH-1886	697.35	688.597	688.068	46	16	0	9.282	12.566	0	0	0
MH-1888	698.76	690.177	689.6491	46	15	0	9.1109	12.566	0	0	0
MH-1891	682.47	674.387	672.8045	46	18	0	9.6655	12.566	0	0	0
MH-1893	690.94	681.187	680.6424	46	17	0	10.2976	12.566	0	0	0
MH-1895	696.5	684.587	684.0758	46	15	0	12.4242	12.566	0	0	0
MH-3088	698.25	689.087	688.529	46	18	0	9.721	12.566	0	0	0
MH-3089	700.35	690.187	689.6748	46	16	0	10.6752	12.566	0	0	0
MH-3090	699.25	690.917	690.3683	46	15	0	8.8817	12.566	0	0	0
MH-320	660.66	644.41	643.9675	46	47	0	16.6925	12.566	0	0	0
MH-343	660.87	647.813	646.6444	46	46	0	14.2256	12.566	0	0	0
MH-354	660.62	649.886	650.3972	46	33	0.5112	10.2228	12.566	0	0	0
MH-355	666.12	652.105	651.9249	46	33	0	14.1951	12.566	0	0	0
MH-356	670.73	659.087	654.4302	46	31	0	16.2998	12.566	0	0	0
MH-357	662.42	655.81	651.6757	46	46	0	10.7443	12.566	0	0	0
MH-358	666.59	658.5	657.7724	46	45	0	8.8176	12.566	0	0	0
MH-374	666.5	657.5	656.6818	46	30	0	9.8182	12.566	0	0	0
MH-375	664.75	657.12	656.6845	46	33	0	8.0655	12.566	0	0	0
MH-396	668.15	656.737	656.6941	46	30	0	11.4559	12.566	0	0	0
MH-4199	692.91	676.41	675.6204	46	45	0	17.2896	12.566	0	0	0
MH-466	675.12	663.207	662.6404	46	17	0	12.4796	12.566	0	0	0
MH-467	681.52	672.087	669.1214	46	16	0	12.3986	12.566	0	0	0
MH-468	689.87	679.287	678.7312	46	15	0	11.1388	12.566	0	0	0
MH-470	672.35	661.017	660.4901	46	17	0	11.8599	12.566	0	0	0
MH-471	681.46	670.297	669.7277	46	16	0	11.7323	12.566	0	0	0
MH-472	682.45	673.287	672.7311	46	15	0	9.7189	12.566	0	0	0
MH-5152	670.49	658.649	658.322	46	26	0	12.168	12.566	0	0	0
MH-5174	665.92	655.353	655.6391	46	31	0.2861	10.2809	12.566	0	0	0
MH-5568	658.82	646.99	645.9781	46	39	0	12.8419	12.566	0	0	0
MH-5571	661.85	648.81	647.6025	46	39	0	14.2475	12.566	0	0	0
MH-5572	665.87	652.87	651.17	0	0	0	14.7	12.566	0	0	0
MH-5574	665.94	653.05	650.7616	46	46	0	15.1784	12.566	0	0	0
MH-5724	677.33	667.333	666.9337	46	21	0	10.3963	12.566	0	0	0
MH-6069	660.42	645.72	645.5623	46	47	0	14.8577	12.566	0	0	0
MH-6075	681.16	666.16	665.325	46	45	0	15.835	12.566	0	0	0
MH-6090	662.05	649.4	648.6704	46	38	0	13.3796	12.566	0	0	0
MH-6092	682.68	670.347	669.7564	46	15	0	12.9236	12.566	0	0	0
MH-6168	663.92	650.467	649.9737	46	47	0	13.9463	12.566	0	0	0
MH-669	681.05	670.713	670.2245	46	20	0	10.8255	12.566	0	0	0
MH-670	689.72	671.887	670.7903	46	17	0	18.9297	12.566	0	0	0
MH-671	696.64	672.887	672.3552	46	16	0	24.2848	12.566	0	0	0
MH-672	678.61	668.443	668.0378	46	20	0	10.5722	12.566	0	0	0
MH-673	683.22	674.887	674.3116	46	16	0	8.9084	12.566	0	0	0
MH-674	690.96	681.627	681.0523	46	15	0	9.9077	12.566	0	0	0
MH-871	679.09	670.11	669.5677	46	16	0	9.5223	12.566	0	0	0
MH-877	685.75	674.587	674.0458	46	15	0	11.7042	12.566	0	0	0
MH-879	676.54	666.487	665.985	46	22	0	10.555	12.566	0	0	0
MH-884	681.49	672.087	664.6143	46	23	0	16.8757	12.566	0	0	0
MH-886	687.77	677.107	676.5436	46	17	0	11.2264	12.566	0	0	0
MH-887	688.81	682.057	681.4932	46	15	0	7.3168	12.566	0	0	0
MH-937	680.8	672.227	671.8746	46	19	0	8.9254	12.566	0	0	0
MH-938	682.09	674.177	673.7396	46	20	0	8.3504	12.566	0	0	0
MH-940	695.96	688.957	688.335	46	15	0	7.625	12.566	0	0	0
MH-943	682.72	674.344	673.8057	46	17	0	8.9143	12.566	0	0	0
MH-944	686.14	678.35	677.8132	46	15	0	8.3268	12.566	0	0	0
MH-946	691.27	682.357	681.8196	46	15	0	9.4504	12.566	0	0	0
MH-961	679.46	668.457	667.9041	46	16	0	11.5559	12.566	0	0	0
MH-962	689.04	680.457	679.8632	46	15	0	9.1768	12.566	0	0	0
MH-968	681.12	668.299	667.8376	46	18	0	13.2824	12.566	0	0	0
MH-969	680.17	669.087	668.6145	46	15	0	11.5555	12.566	0	0	0
MH-976	678.37	669.087	663.5262	46	19	0	14.8438	12.566	0	0	0
MH-983	680.15	663.183	662.8355	46	24	0	17.3145	12.566	0	0	0
MH-986	678.74	665.633	665.4623	46	23	0	13.2777	12.566	0	0	0
MH-991	681.04	671.747	670.7157	46	17	0	10.3243	12.566	0	0	0
MH-993	688.87	681.957	681.4144	46	15	0	7.4556	12.566	0	0	0

Table 2
1-Year Recurrence Interval Event - Modeling Results - Conveyance Design (Same as Existing Conditions for 1-Year RI)
Pipe Summary - North Basin

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Proposed Pipe Diameter (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends Upstream (ft)	Maximum Water Elevation at Pipe Ends Downstream (ft)	Ratio d/D US	Ratio d/D DS
P-485	2.4042	6.8805	8.004		0.1543	46	15	3.8217	46	16	0.0642	689.3553	682.2541	0.173	0.171
P-486	2.4128	6.9053	8.004		0.1542	46	16	4.2026	0	11	0.0639	682.2541	675.1692	0.171	0.194
P-487	1.8758	5.3683	8.004		0.154	46	17	2.5259	46	16	0.0821	675.1692	670.2245	0.194	0.516
P-671	2.2315	4.0946	9.996		0.7882	46	20	3.5868	46	21	0.3532	670.2245	668.0378	0.414	0.514
P-2983	2.1464	3.9385	9.996		1.065	46	20	3.7713	46	21	0.4962	668.0378	666.9337	0.514	0.521
P-2985	2.1504	3.9458	9.996		1.0649	46	21	3.535	46	21	0.4952	666.9337	665.985	0.521	0.738
P-2981	1.5777	2.8951	9.996		1.2933	46	22	2.9762	46	21	0.8197	665.985	665.4623	0.738	0.795
P-2979	1.5769	2.8935	9.996		1.2931	46	23	2.8834	46	24	0.82	665.4623	664.6143	0.795	0.545
P-521	2.7888	5.1173	9.996		1.5298	46	23	4.9912	46	24	0.5485	664.6143	662.8355	0.545	0.583
P-522	2.789	5.1177	9.996		1.5296	46	24	4.6966	46	23	0.5484	662.8355	660.9572	0.583	0.525
P-2909	3.4798	6.3852	9.996		1.816	46	23	8.2215	0	2	0.5219	660.9572	658.322	0.525	0.607
P-2910	3.4798	6.3851	9.996		1.8156	46	24	9.2551	0	2	0.5218	658.322	656.6818	0.607	1.815
P-2915	1.6161	2.9655	9.996		1.9547	46	30	4.8441	0	2	1.2095	656.6818	655.6391	1.815	1.343
P-2916	1.6166	2.9664	9.996		1.9547	46	31	3.6845	46	31	1.2091	655.6391	654.4302	1.343	0.673
P-195	2.7139	4.9798	9.996		2.076	46	31	5.2356	46	30	0.765	654.4302	651.9249	0.673	0.784
P-196	2.7144	4.9807	9.996		2.0754	46	32	4.7961	44	50	0.7646	651.9249	650.3972	0.784	1.614
P-506	1.43	4.0926	8.004		0.147	46	15	2.4387	46	16	0.1028	684.0758	680.6424	0.234	0.183
P-507	2.0242	5.793	8.004		0.1466	46	17	3.331	46	18	0.0724	680.6424	673.8408	0.183	0.181
P-501	1.3361	3.8238	8.004		0.1248	46	15	2.3662	46	16	0.0934	689.6491	688.068	0.208	0.207
P-502	1.3293	3.8045	8.004		0.1247	46	16	2.1843	46	16	0.0938	688.068	686.5603	0.207	0.33
P-503	0.9141	2.6162	8.004		0.2121	46	19	2.0954	46	19	0.232	686.5603	685.6978	0.33	0.341
P-504	0.9016	2.5802	8.004		0.2118	46	21	2.0278	46	21	0.2349	685.6978	684.8015	0.341	0.317
P-899	1.2808	3.6656	8.004		0.0881	46	15	2.0043	46	15	0.0688	690.3683	689.6748	0.177	0.232
P-901	0.9056	2.5917	8.004		0.0879	46	16	1.4876	46	17	0.0971	689.6748	688.529	0.232	0.163
P-904	1.5122	4.3279	8.004		0.0878	46	18	3.1206	0	4	0.0581	688.529	686.5603	0.163	0.33
P-265	3.167	9.0637	8.004		0.0295	46	15	1.9668	46	15	0.0093	688.335	683.2947	0.067	0.217
P-266	3.1056	8.8879	8.004		0.3207	46	19	5.2564	46	19	0.1033	683.2947	673.7396	0.217	0.344
P-505	1.2636	3.6163	8.004		0.3207	46	20	2.8567	46	21	0.2538	673.7396	672.8045	0.344	0.474
P-267	1.2628	3.6141	8.004		0.5474	46	18	3.3539	46	19	0.4335	672.8045	671.8746	0.474	0.472
P-268	1.2635	3.6161	8.004		0.5473	46	19	3.3363	46	19	0.4332	671.8746	670.2245	0.472	0.516
P-261	0.9951	2.848	8.004		0.0879	46	16	1.736	46	16	0.0884	672.3552	671.354	0.203	0.201
P-262	0.7876	2.254	8.004		0.0878	46	17	1.0777	46	17	0.1115	670.7903	670.2245	0.225	0.756
P-269	2.1639	6.1929	8.004		0.1766	46	15	3.6938	46	15	0.0816	681.8196	677.8132	0.194	0.195
P-270	2.1636	6.1921	8.004		0.1765	46	16	3.6788	46	17	0.0816	677.8132	673.8057	0.195	0.193
P-271	2.1638	6.1925	8.004		0.1763	46	17	2.6641	46	16	0.0815	673.8057	668.0378	0.193	0.641
P-263	2.5185	7.2078	8.004		0.1029	46	15	3.4991	46	16	0.0409	681.0523	674.3116	0.138	0.137
P-264	2.5251	7.2266	8.004		0.1028	46	16	2.0652	46	15	0.0407	674.3116	668.0378	0.137	0.641
P-272	3.2315	9.2483	8.004		0.0827	46	15	3.6082	46	15	0.0256	679.8632	667.9041	0.11	0.171
P-273	1.2929	3.7002	8.004		0.0825	46	16	2.0061	45	39	0.0638	667.9041	665.985	0.171	0.247
P-259	1.941	5.5551	8.004		0.1487	46	15	3.2511	46	16	0.0766	674.0458	669.5677	0.189	0.187
P-260	1.9413	5.5558	8.004		0.1486	46	16	3.1931	45	44	0.0765	669.5677	665.985	0.187	0.247
P-278	1.8801	5.3806	8.004		0.1403	46	15	3.1153	46	16	0.0746	681.4144	677.5426	0.186	0.184
P-277	2.4706	7.0705	8.004		0.1402	46	16	3.7843	46	16	0.0568	677.5278	670.7157	0.162	0.174
P-283	2.1307	6.0978	8.004		0.1401	46	17	2.2648	46	16	0.0658	670.7157	664.6143	0.174	0.681
P-284	2.9795	8.5271	8.004		0	0	0	0	0	0	0	670.7157	670.7157	0	0
P-257	1.9186	5.4908	8.004		0.099	46	15	2.8727	46	15	0.0516	681.4932	676.5436	0.155	0.155
P-258	1.9321	5.5295	8.004		0.0988	46	17	2.8555	46	17	0.0511	676.5436	671.522	0.155	0.153
P-308	3.0003	8.5867	8.004		0.1404	46	15	4.0081	46	15	0.0468	679.298	670.3752	0.147	0.233
P-311	1.201	3.4372	8.004		0.14	46	17	2.2699	46	17	0.1166	670.3752	668.5734	0.233	0.23
P-276	1.202	3.4401	8.004		0.1398	46	19	2.2497	46	19	0.1163	663.5262	661.5732	0.234	0.23
P-275	0.8076	2.3113	8.004		0.148	46	19	1.6483	46	19	0.1832	667.8376	666.9955	0.308	0.263
P-208	2.2051	6.3109	8.004		0.1319	46	16	3.4389	46	16	0.0598	678.7312	671.5303	0.167	0.165
P-207	2.6764	7.6596	8.004		0.1319	46	16	3.9299	46	17	0.0493	669.1214	662.6404	0.152	0.151
P-205	2.6816	7.6744	8.004		0.1318	46	17	16.5301	0	2	0.0492	662.6404	656.6941	0.151	0.936
P-204	0.9306	2.6633	8.004		0.1726	47	19	1.6008	42	40	0.1855	656.6941	656.6818	0.936	1.772
P-199	0.9548	2.7327	8.004		0.0316	46	21	1.1923	46	21	0.0331	657.7724	656.6845	0.108	0.347
P-202	0.9429	2.6985	8.004		0.0475	47	12	0.8266	42	33	0.0504	656.6845	656.6818	0.347	1.772
P-211	2.2668	6.4873	8.004		0.1238	46	15	3.2846	46	16	0.0546	672.7311	669.7277	0.167	0.146
P-209	2.6625	7.62	8.004		0.1237	46	16	3.6325	46	15	0.0465	669.7277	660.4901	0.146	0.21
P-210	1.3029	3.7288	8.004		0.1234	46	18	2.8969	0	2	0.0947	660.4901	658.5583	0.21	0.207
P-3077	21.7997	12.3361	18		9.0685	46	45	11.1008	46	45	0.416	675.6204	665.325	0.474	0.443
P-3073	26.1881	14.8194	18		9.0647	46	45	12.122	46	46	0.3461	665.325	652.1587	0.443	0.406
P-3067	15.7527	8.9142	18		9.0632	46	46	7.7485	45	38	0.5753	650.7616	646.6444	0.601	1.403
P-3069	5.5605	3.1466	18		9.3439	46	46	5.3054	46	46	1.6804	646.6444	645.5623	1.403	0.895
P-3070	11.0648	6.2614	18		9.3433	46	47	5.7208	46	48	0.8444	645.5623	643.9675	0.895	0.705
P-3088	3.55	10.1599	8.004		0.099	46	15	3.6219	46	15	0.0279	669.7564	651.6757	0.115	0.263
P-3092	1.4511	4.1529	8.004		0.2144	46	46	2.9192	46	47	0.1478	651.6757	649.9737	0.263	0.26
P-3093	1.443	4.1297	8.004		0.2143	46	47	2.3376	0	2	0.1485	649.9737	648.6704	0.26	0.825
P-17061	13.1123	10.6849	15		2.2854	46	38	4.9288	46	39	0.1743	648.6704	647.9131	0.416	0.282
P-2956	9.9182	5.6125	18		0	0	0	0	0	0	0	651.17	651.17	0	0
P-2957	14.0776	7.9663	18		0	0	0	0	0	0	0	651.17	647.6025	0	0
P-2958	8.7309	4.9407	18		2.0016	46	39	3.8673	46	40	0.2293	647.6025	645.9781	0.335	0.325
P-197	1.6806	3.0839	9.996		2.0754	46	33	3.9114	46	33	1.2349	650.3972	648.6704	1.614	0.661
P-274	0.8077	2.3116	8.004		0.1486	46	16	1.7381	46	16	0.1839	668.6145	667.8376	0.292	0.308
P-2917	1.6007	2.9584	9.96		0.0007	46	30	0.2849	46	30	0.0004	656.6818	655.3737	0.014	0.0045
P-198	3.6852	6.811	9.96		0.1159	46	45	3.0273	46	45	0.0315	657.7724	655.0808	0.123	0.121
P-1000	3.0205	5.5424	9.996		0.2837	46	39	3.4758	46	39	0.0939	647.6025	647.1521	0.207	0.207
FREE	#	1	Undefnd		Undefnd	Undefn	9.3433	46	47						
FREE	#	2	Undefnd		Undefnd	Undefn	2.0016	46	39						

Table 3
2-Year Recurrence Interval Event - Modeling Results - Conveyance Design Conditions
Pipe Summary - North Basin

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-1002	688.01	679.257	678.59	0	0	0	9.42	12.566	0	0	0
MH-1003	680.47	670.887	670.3908	46	16	0	10.0792	12.566	0	0	0
MH-1004	686.45	679.867	679.3076	46	15	0	7.1424	12.566	0	0	0
MH-16339	678.6	678.087	677.5381	46	16	0	1.0619	12.566	0	0	0
MH-16365	694.8	686.137	685.7242	46	20	0	9.0758	12.566	0	0	0
MH-16366	692.73	685.257	683.3101	46	19	0	9.4199	12.566	0	0	0
MH-16369	677.35	667.487	661.018	46	18	0	16.332	12.566	0	0	0
MH-1822	687.46	675.707	675.1827	46	17	0	12.2773	12.566	0	0	0
MH-1823	692.89	682.807	682.266	46	16	0	10.624	12.566	0	0	0
MH-1824	700.02	689.907	689.3674	46	15	0	10.6526	12.566	0	0	0
MH-1885	694.17	687.007	686.5855	46	18	0	7.5845	12.566	0	0	0
MH-1886	697.35	688.597	688.0825	46	16	0	9.2675	12.566	0	0	0
MH-1888	698.76	690.177	689.6639	46	15	0	9.0961	12.566	0	0	0
MH-1891	682.47	674.387	672.8454	46	17	0	9.6246	12.566	0	0	0
MH-1893	690.94	681.187	680.6551	46	17	0	10.2849	12.566	0	0	0
MH-1895	696.5	684.587	684.0925	46	15	0	12.4075	12.566	0	0	0
MH-3088	698.25	689.087	688.5402	46	18	0	9.7098	12.566	0	0	0
MH-3089	700.35	690.187	689.6913	46	16	0	10.6587	12.566	0	0	0
MH-3090	699.25	690.917	690.3808	46	15	0	8.8692	12.566	0	0	0
MH-320	660.66	644.41	644.1387	46	47	0	16.5213	12.566	0	0	0
MH-343	660.87	647.813	647.6885	46	47	0	13.1815	12.566	0	0	0
MH-354	660.62	650.053	649.8842	46	23	0	10.7358	12.566	0	0	0
MH-355	666.12	652.272	651.8282	46	22	0	14.2918	12.566	0	0	0
MH-356	670.73	659.087	654.4293	46	21	0	16.3007	12.566	0	0	0
MH-357	662.42	655.81	651.6935	46	16	0	10.7265	12.566	0	0	0
MH-358	666.59	658.5	657.782	46	15	0	8.808	12.566	0	0	0
MH-374	666.5	657.5	655.9789	46	20	0	10.5211	12.566	0	0	0
MH-375	664.75	657.12	656.535	46	18	0	8.215	12.566	0	0	0
MH-396	668.15	656.737	656.2566	46	18	0	11.8934	12.566	0	0	0
MH-4199	692.91	676.41	675.6932	46	45	0	17.2168	12.566	0	0	0
MH-466	675.12	663.207	662.6502	46	17	0	12.4698	12.566	0	0	0
MH-467	681.52	672.087	669.1312	46	16	0	12.3888	12.566	0	0	0
MH-468	689.87	679.287	678.7422	46	15	0	11.1278	12.566	0	0	0
MH-470	672.35	661.017	660.5041	46	17	0	11.8459	12.566	0	0	0
MH-471	681.46	670.297	669.7372	46	15	0	11.7228	12.566	0	0	0
MH-472	682.45	673.287	672.7419	46	15	0	9.7081	12.566	0	0	0
MH-5152	670.49	658.649	658.3257	46	19	0	12.1643	12.566	0	0	0
MH-5174	665.92	655.52	655.3509	46	21	0	10.5691	12.566	0	0	0
MH-5568	658.82	646.99	646.0281	46	48	0	12.7919	12.566	0	0	0
MH-5571	661.85	648.81	647.6555	46	47	0	14.1945	12.566	0	0	0
MH-5572	665.87	652.87	651.17	0	0	0	14.7	12.566	0	0	0
MH-5574	665.94	653.05	651.0438	46	46	0	14.8962	12.566	0	0	0
MH-5724	677.33	667.333	667.0121	46	26	0	10.3179	12.566	0	0	0
MH-6069	660.42	645.72	646.1355	46	47	0.4155	14.2845	12.566	0	0	0
MH-6075	681.16	666.16	665.3969	46	45	0	15.7631	12.566	0	0	0
MH-6090	662.05	649.4	648.7431	46	23	0	13.3069	12.566	0	0	0
MH-6092	682.68	670.347	669.7637	46	15	0	12.9163	12.566	0	0	0
MH-6168	663.92	650.467	649.991	46	17	0	13.929	12.566	0	0	0
MH-669	681.05	670.713	670.2675	46	20	0	10.7825	12.566	0	0	0
MH-670	689.72	671.887	670.8064	46	17	0	18.9136	12.566	0	0	0
MH-671	696.64	672.887	672.3698	46	16	0	24.2702	12.566	0	0	0
MH-672	678.61	668.443	668.096	46	20	0	10.514	12.566	0	0	0
MH-673	683.22	674.887	674.321	46	16	0	8.899	12.566	0	0	0
MH-674	690.96	681.627	681.062	46	15	0	9.898	12.566	0	0	0
MH-871	679.09	670.11	669.5799	46	16	0	9.5101	12.566	0	0	0
MH-877	685.75	674.587	674.0582	46	15	0	11.6918	12.566	0	0	0
MH-879	676.54	666.487	666.2376	46	55	0	10.3024	12.566	0	0	0
MH-884	681.49	672.087	664.6736	46	17	0	16.8164	12.566	0	0	0
MH-886	687.77	677.107	676.5537	46	17	0	11.2163	12.566	0	0	0
MH-887	688.81	682.057	681.5031	46	15	0	7.3069	12.566	0	0	0
MH-937	680.8	672.227	671.9161	46	18	0	8.8839	12.566	0	0	0
MH-938	682.09	674.177	673.7673	46	20	0	8.3227	12.566	0	0	0
MH-940	695.96	688.957	688.3398	46	15	0	7.6202	12.566	0	0	0
MH-943	682.72	674.344	673.8192	46	16	0	8.9008	12.566	0	0	0
MH-944	686.14	678.35	677.8269	46	15	0	8.3131	12.566	0	0	0
MH-946	691.27	682.357	681.8332	46	15	0	9.4368	12.566	0	0	0
MH-961	679.46	668.457	667.9151	46	16	0	11.5449	12.566	0	0	0
MH-962	689.04	680.457	679.8704	46	15	0	9.1696	12.566	0	0	0
MH-968	681.12	668.299	667.859	46	18	0	13.261	12.566	0	0	0
MH-969	680.17	669.087	668.6347	46	15	0	11.5353	12.566	0	0	0
MH-976	678.37	669.087	663.542	46	18	0	14.828	12.566	0	0	0
MH-983	680.15	663.183	662.8995	46	17	0	17.2505	12.566	0	0	0
MH-986	678.74	665.633	665.6401	46	56	0.0071	13.0999	12.566	0	0	0
MH-991	681.04	671.747	670.727	46	17	0	10.313	12.566	0	0	0
MH-993	688.87	681.957	681.4265	46	15	0	7.4435	12.566	0	0	0

Table 3
2-Year Recurrence Interval Event - Modeling Results - Conveyance Design Conditions
Pipe Summary - North Basin

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends Upstream (ft)	Maximum Water Elevation at Pipe Ends Downstream (ft)	Ratio d/D US	Ratio d/D DS
P-485	2.4042	6.8805	8.004	0.1887	46	15	4.0532	46	16	0.0785	689.3674	682.266	0.191	0.189
P-486	2.4128	6.9053	8.004	0.1886	46	16	4.2026	0	11	0.0782	682.266	675.1827	0.189	0.214
P-487	1.8758	5.3683	8.004	0.1884	46	17	2.6766	46	16	0.1004	675.1827	670.2675	0.214	0.581
P-671	2.2315	4.0946	9.996	0.9643	46	20	3.7591	46	20	0.4321	670.2675	668.096	0.465	0.583
P-2983	2.1464	3.9385	9.996	1.3029	46	20	3.9269	46	19	0.607	668.096	667.0121	0.583	0.615
P-2985	2.1504	3.9458	9.996	1.3009	46	20	3.5942	45	48	0.605	667.0121	666.2376	0.615	1.041
P-2981	1.5777	2.8951	9.996	1.5621	47	8	2.9954	45	21	0.9901	666.2376	665.6401	1.041	1.009
P-2979	1.5769	2.8935	9.996	1.5529	46	15	2.9909	46	15	0.9848	665.6401	664.6736	1.009	0.617
P-521	2.7888	5.1173	9.996	1.8406	46	17	5.1794	46	17	0.66	664.6736	662.8995	0.617	0.66
P-522	2.789	5.1177	9.996	1.8407	46	18	4.8817	46	18	0.66	662.8995	661.018	0.66	0.598
P-2909	3.4798	6.3852	9.996	2.188	46	18	8.2215	0	2	0.6288	661.018	658.3257	0.598	0.612
P-2910	3.4798	6.3851	9.996	2.1877	46	19	9.3139	0	2	0.6287	658.3257	655.9789	0.612	0.971
P-2915	2.6308	3.3497	12	2.3756	46	20	5.3245	0	2	0.903	655.9789	655.3509	0.809	0.831
P-2916	2.6316	3.3507	12	2.3754	46	21	3.531	46	22	0.9026	655.3509	654.4293	0.831	0.559
P-195	4.4178	5.6249	12	2.5239	46	21	5.5887	46	22	0.5713	654.4293	651.8282	0.559	0.556
P-196	4.4186	5.6259	12	2.5237	46	22	5.3276	46	22	0.5712	651.8282	649.8842	0.556	0.831
P-506	1.43	4.0926	8.004	0.1797	46	15	2.5825	46	16	0.1257	684.0925	680.6551	0.259	0.203
P-507	2.0242	5.793	8.004	0.1793	46	17	3.5437	46	17	0.0886	680.6551	673.8541	0.203	0.201
P-501	1.3361	3.8238	8.004	0.1527	46	15	2.5055	46	16	0.1143	689.6639	688.0825	0.231	0.229
P-502	1.3293	3.8045	8.004	0.1525	46	16	2.3145	46	16	0.1147	688.0825	686.5855	0.229	0.368
P-503	0.9141	2.6162	8.004	0.2595	46	18	2.212	46	19	0.2839	686.5855	685.7242	0.368	0.381
P-504	0.9016	2.5802	8.004	0.2591	46	21	2.1389	46	21	0.2874	685.7242	684.8247	0.381	0.352
P-899	1.2808	3.6656	8.004	0.1078	46	15	2.1286	46	15	0.0842	690.3808	689.6913	0.196	0.257
P-901	0.9056	2.5917	8.004	0.1076	46	16	1.5771	46	17	0.1188	689.6913	688.5402	0.257	0.18
P-904	1.5122	4.3279	8.004	0.1075	46	18	3.1206	0	4	0.0711	688.5402	686.5855	0.18	0.368
P-265	3.167	9.0637	8.004	0.036	46	15	2.0953	46	15	0.0114	688.3398	683.3101	0.075	0.24
P-266	3.1056	8.8879	8.004	0.3924	46	19	5.5679	46	19	0.1264	683.3101	673.7673	0.24	0.386
P-505	1.2636	3.6163	8.004	0.3924	46	20	2.995	46	21	0.3105	673.7673	672.8454	0.386	0.536
P-267	1.2628	3.6141	8.004	0.6697	46	18	3.5142	46	19	0.5303	672.8454	671.9161	0.536	0.534
P-268	1.2635	3.6161	8.004	0.6696	46	19	3.4906	46	19	0.53	671.9161	670.2675	0.534	0.581
P-261	0.9951	2.848	8.004	0.1076	46	16	1.8351	46	16	0.1081	672.3698	671.3676	0.225	0.221
P-262	0.7876	2.254	8.004	0.1075	46	17	1.1682	46	17	0.1364	670.8064	670.2675	0.249	0.821
P-269	2.1639	6.1929	8.004	0.2159	46	15	3.9123	46	15	0.0998	681.8332	677.8269	0.215	0.216
P-270	2.1636	6.1921	8.004	0.2158	46	16	3.8948	46	16	0.0997	677.8269	673.8192	0.216	0.213
P-271	2.1638	6.1925	8.004	0.2157	46	16	2.8266	46	16	0.0997	673.8192	668.096	0.213	0.729
P-263	2.5185	7.2078	8.004	0.1258	46	15	3.7175	46	16	0.05	681.062	674.321	0.153	0.151
P-264	2.5251	7.2266	8.004	0.1257	46	16	2.1941	46	15	0.0498	674.321	668.096	0.151	0.729
P-272	3.2315	9.2483	8.004	0.0998	46	15	3.8265	46	15	0.0309	679.8704	667.9151	0.121	0.188
P-273	1.2929	3.7002	8.004	0.0995	46	16	2.0014	44	39	0.077	667.9151	666.2376	0.188	0.626
P-259	1.941	5.5551	8.004	0.1795	46	15	3.4343	46	16	0.0925	674.0582	669.5799	0.207	0.205
P-260	1.9413	5.5558	8.004	0.1793	46	16	3.2224	44	42	0.0924	669.5799	666.2376	0.205	0.626
P-278	1.8801	5.3806	8.004	0.1693	46	15	3.2981	46	16	0.0901	681.4265	677.5551	0.205	0.203
P-277	2.4706	7.0705	8.004	0.1693	46	16	3.9967	46	16	0.0685	677.5381	670.727	0.177	0.19
P-283	2.1307	6.0978	8.004	0.1691	46	17	2.3931	46	17	0.0794	670.727	664.6736	0.19	0.77
P-284	2.9795	8.5271	8.004	0	0	0	0	0	0	0	670.727	670.727	0	0
P-257	1.9186	5.4908	8.004	0.1195	46	15	3.0357	46	15	0.0623	681.5031	676.5537	0.17	0.17
P-258	1.9321	5.5295	8.004	0.1192	46	17	3.0154	46	17	0.0617	676.5537	671.5319	0.17	0.168
P-308	3.0003	8.5867	8.004	0.1695	46	15	4.2436	46	15	0.0565	679.3076	670.3908	0.161	0.256
P-311	1.201	3.4372	8.004	0.169	46	17	2.3938	46	17	0.1407	670.3908	668.5886	0.256	0.253
P-276	1.202	3.4401	8.004	0.1688	46	18	2.3698	46	19	0.1404	663.542	661.5885	0.258	0.253
P-275	0.8076	2.3113	8.004	0.1786	46	18	1.7358	46	19	0.2212	667.859	667.0135	0.34	0.29
P-208	2.2051	6.3109	8.004	0.1592	46	15	3.6272	46	16	0.0722	678.7422	671.5406	0.183	0.181
P-207	2.6764	7.6596	8.004	0.1592	46	16	4.1544	46	17	0.0595	669.1312	662.6502	0.167	0.165
P-205	2.6816	7.6744	8.004	0.1592	46	17	16.5301	0	2	0.0594	662.6502	656.2566	0.165	0.28
P-204	0.9306	2.6633	8.004	0.159	46	18	1.6838	42	42	0.1709	656.2566	655.9789	0.28	0.718
P-199	0.9548	2.7327	8.004	0.0306	46	16	1.2408	46	16	0.032	657.782	656.535	0.123	0.123
P-202	0.9429	2.6985	8.004	0.0304	46	18	0.9186	42	32	0.0322	656.535	655.9789	0.123	0.718
P-211	2.2668	6.4873	8.004	0.1494	46	15	3.4676	46	15	0.0659	672.7419	669.7372	0.183	0.161
P-209	2.6625	7.62	8.004	0.1493	46	15	3.847	46	15	0.0561	669.7372	660.5041	0.161	0.231
P-210	1.3029	3.7288	8.004	0.149	46	17	2.8969	0	2	0.1143	660.5041	658.5718	0.231	0.228
P-3077	21.7997	12.3361	18	10.7079	46	45	11.5642	46	45	0.4912	675.6932	665.3969	0.522	0.491
P-3073	26.1881	14.8194	18	10.7034	46	45	12.5408	46	46	0.4087	665.3969	652.2178	0.491	0.445
P-3067	15.7527	8.9142	18	10.6923	46	46	7.7478	44	38	0.6788	651.0438	647.6885	0.789	2.099
P-3069	5.5605	3.1466	18	11.0463	46	47	6.2107	46	47	1.9866	647.6885	646.1355	2.099	1.277
P-3070	11.0648	6.2614	18	11.0464	46	47	6.3192	46	47	0.9983	646.1355	644.1387	1.277	0.819
P-3088	3.55	10.1599	8.004	0.1196	46	15	3.8169	46	15	0.0337	669.7637	651.6935	0.125	0.29
P-3092	1.4511	4.1529	8.004	0.2582	46	16	3.0726	46	17	0.1779	651.6935	649.991	0.29	0.286
P-3093	1.443	4.1297	8.004	0.2581	46	17	2.3838	46	17	0.1788	649.991	648.7431	0.286	0.934
P-17061	13.1123	10.6849	15	2.7785	46	23	5.06	46	24	0.2119	648.7431	647.9503	0.475	0.312
P-2956	9.9182	5.6125	18	0	0	0	0	0	0	0	651.17	651.17	0	0
P-2957	14.0776	7.9663	18	0	0	0	0	0	0	0	651.17	647.6555	0	0
P-2958	8.7309	4.9407	18	2.4057	46	48	4.0583	46	48	0.2755	647.6555	646.0281	0.37	0.359
P-197	2.7358	3.4834	12	2.5233	46	23	3.7151	46	24	0.9223	649.8842	648.7431	0.831	0.623
P-274	0.8077	2.3116	8.004	0.1793	46	15	1.8307	46	16	0.222	668.6347	667.859	0.322	0.34
P-2917	1.6007	2.9584	9.96	0	0	0	0	0	0	0	654.4293	654.4293	0	0
P-198	3.6852	6.811	9.96	0.1388	46	15	3.1739	46	15	0.0377	657.782	655.089	0.135	0.131
P-1000	3.0205	5.5424	9.996	0.4306	47	6	3.9257	47	6	0.1425	647.6555	647.6885	0.271	0.851
FREE	#	1	Undefnd	Undefnd	Undefn	11.0464	46	47						
FREE	#	2	Undefnd	Undefnd	Undefn	2.4057	46	48						

Table 4
5-Year Recurrence Interval Event - Modeling Results -Conveyance Design Conditions
Pipe Summary - North Basin

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-1002	688.01	679.257	678.59	0	0	0	9.42	12.566	0	0	0
MH-1003	680.47	670.887	670.4064	46	16	0	10.0636	12.566	0	0	0
MH-1004	686.45	679.867	679.3168	46	15	0	7.1332	12.566	0	0	0
MH-16339	678.6	678.087	677.5485	46	16	0	1.0515	12.566	0	0	0
MH-16365	694.8	686.137	685.7514	46	20	0	9.0486	12.566	0	0	0
MH-16366	692.73	685.257	683.3253	46	19	0	9.4047	12.566	0	0	0
MH-16369	677.35	667.487	661.0174	46	22	0	16.3326	12.566	0	0	0
MH-1822	687.46	675.707	675.1961	46	17	0	12.2639	12.566	0	0	0
MH-1823	692.89	682.807	682.2778	46	16	0	10.6122	12.566	0	0	0
MH-1824	700.02	689.907	689.3794	46	15	0	10.6406	12.566	0	0	0
MH-1885	694.17	687.007	686.6112	46	18	0	7.5588	12.566	0	0	0
MH-1886	697.35	688.597	688.097	46	16	0	9.253	12.566	0	0	0
MH-1888	698.76	690.177	689.6787	46	15	0	9.0813	12.566	0	0	0
MH-1891	682.47	674.387	672.8892	46	17	0	9.5808	12.566	0	0	0
MH-1893	690.94	681.187	680.668	46	17	0	10.272	12.566	0	0	0
MH-1895	696.5	684.587	684.109	46	15	0	12.391	12.566	0	0	0
MH-3088	698.25	689.087	688.5515	46	18	0	9.6985	12.566	0	0	0
MH-3089	700.35	690.187	689.7078	46	16	0	10.6422	12.566	0	0	0
MH-3090	699.25	690.917	690.3929	46	15	0	8.8571	12.566	0	0	0
MH-320	660.66	644.41	644.1901	46	46	0	16.4699	12.566	0	0	0
MH-343	660.87	647.813	647.9426	46	46	0.1296	12.9274	12.566	0	0	0
MH-354	660.62	650.053	650.1494	46	29	0.0964	10.4706	12.566	0	0	0
MH-355	666.12	652.272	651.9295	46	28	0	14.1905	12.566	0	0	0
MH-356	670.73	659.087	654.4984	46	26	0	16.2316	12.566	0	0	0
MH-357	662.42	655.81	651.711	46	16	0	10.709	12.566	0	0	0
MH-358	666.59	658.5	657.7911	46	15	0	8.7989	12.566	0	0	0
MH-374	666.5	657.5	656.3943	46	26	0	10.1057	12.566	0	0	0
MH-375	664.75	657.12	656.5442	46	18	0	8.2058	12.566	0	0	0
MH-396	668.15	656.737	656.4314	46	27	0	11.7186	12.566	0	0	0
MH-4199	692.91	676.41	675.7707	46	45	0	17.1393	12.566	0	0	0
MH-466	675.12	663.207	662.6597	46	16	0	12.4603	12.566	0	0	0
MH-467	681.52	672.087	669.141	46	16	0	12.379	12.566	0	0	0
MH-468	689.87	679.287	678.7528	46	15	0	11.1172	12.566	0	0	0
MH-470	672.35	661.017	660.518	46	17	0	11.832	12.566	0	0	0
MH-471	681.46	670.297	669.7464	46	15	0	11.7136	12.566	0	0	0
MH-472	682.45	673.287	672.753	46	15	0	9.697	12.566	0	0	0
MH-5152	670.49	658.816	658.339	46	25	0	12.151	12.566	0	0	0
MH-5174	665.92	655.52	655.5809	46	27	0.0609	10.3391	12.566	0	0	0
MH-5568	658.82	646.99	646.2364	46	47	0	12.5836	12.566	0	0	0
MH-5571	661.85	648.81	647.8812	46	47	0	13.9688	12.566	0	0	0
MH-5572	665.87	652.87	651.3364	46	46	0	14.5336	12.566	0	0	0
MH-5574	665.94	653.05	651.7845	46	45	0	14.1555	12.566	0	0	0
MH-5724	677.33	667.5	666.996	46	20	0	10.334	12.566	0	0	0
MH-6069	660.42	645.72	646.2854	46	46	0.5654	14.1346	12.566	0	0	0
MH-6075	681.16	666.16	665.4735	46	45	0	15.6865	12.566	0	0	0
MH-6090	662.05	649.4	648.8198	46	27	0	13.2302	12.566	0	0	0
MH-6092	682.68	670.347	669.7707	46	15	0	12.9093	12.566	0	0	0
MH-6168	663.92	650.467	650.0078	46	17	0	13.9122	12.566	0	0	0
MH-669	681.05	670.713	670.3121	46	19	0	10.7379	12.566	0	0	0
MH-670	689.72	671.887	670.8223	46	17	0	18.8977	12.566	0	0	0
MH-671	696.64	672.887	672.3839	46	15	0	24.2561	12.566	0	0	0
MH-672	678.61	668.443	668.1738	46	20	0	10.4362	12.566	0	0	0
MH-673	683.22	674.887	674.3304	46	16	0	8.8896	12.566	0	0	0
MH-674	690.96	681.627	681.0714	46	15	0	9.8886	12.566	0	0	0
MH-871	679.09	670.11	669.592	46	16	0	9.498	12.566	0	0	0
MH-877	685.75	674.587	674.0705	46	15	0	11.6795	12.566	0	0	0
MH-879	676.54	666.487	666.0556	46	21	0	10.4844	12.566	0	0	0
MH-884	681.49	672.087	664.673	46	22	0	16.817	12.566	0	0	0
MH-886	687.77	677.107	676.5638	46	17	0	11.2062	12.566	0	0	0
MH-887	688.81	682.057	681.513	46	15	0	7.297	12.566	0	0	0
MH-937	680.8	672.227	671.9608	46	18	0	8.8392	12.566	0	0	0
MH-938	682.09	674.177	673.7962	46	19	0	8.2938	12.566	0	0	0
MH-940	695.96	688.957	688.3444	46	15	0	7.6156	12.566	0	0	0
MH-943	682.72	674.344	673.8325	46	16	0	8.8875	12.566	0	0	0
MH-944	686.14	678.35	677.8407	46	15	0	8.2993	12.566	0	0	0
MH-946	691.27	682.357	681.8469	46	15	0	9.4231	12.566	0	0	0
MH-961	679.46	668.457	667.9262	46	16	0	11.5338	12.566	0	0	0
MH-962	689.04	680.457	679.877	46	15	0	9.163	12.566	0	0	0
MH-968	681.12	668.299	667.8808	46	18	0	13.2392	12.566	0	0	0
MH-969	680.17	669.087	668.6551	46	15	0	11.5149	12.566	0	0	0
MH-976	678.37	669.087	663.5579	46	18	0	14.8121	12.566	0	0	0
MH-983	680.15	663.35	662.9003	46	23	0	17.2497	12.566	0	0	0
MH-986	678.74	665.8	665.5391	46	22	0	13.2009	12.566	0	0	0
MH-991	681.04	671.747	670.7382	46	17	0	10.3018	12.566	0	0	0
MH-993	688.87	681.957	681.4387	46	15	0	7.4313	12.566	0	0	0

Table 4
5-Year Recurrence Interval Event - Modeling Results -Conveyance Design Conditions
Pipe Summary - North Basin

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends Upstream (ft)	Maximum Water Elevation at Pipe Ends Downstream (ft)	Ratio d/D US	Ratio d/D DS
P-485	2.4042	6.8805	8.004	0.226	46	15	4.2706	46	16	0.094	689.3794	682.2778	0.209	0.207
P-486	2.4128	6.9053	8.004	0.2258	46	16	4.2466	46	16	0.0936	682.2778	675.1961	0.207	0.234
P-487	1.8758	5.3683	8.004	0.2256	46	17	2.8212	46	16	0.1203	675.1961	670.3121	0.234	0.648
P-671	2.2315	4.0946	9.996	1.1548	46	20	3.899	46	20	0.5175	670.3121	668.1738	0.519	0.677
P-2983	2.1464	3.9385	9.996	1.5606	46	20	4.0319	46	21	0.7271	668.1738	666.996	0.677	0.595
P-2985	3.5004	4.4569	12	1.5605	46	21	3.8319	46	21	0.4458	666.996	666.0556	0.496	0.686
P-2981	2.5683	3.2701	12	1.8874	46	21	3.2619	46	21	0.7349	666.0556	665.5391	0.686	0.739
P-2979	2.5669	3.2683	12	1.8872	46	22	3.1428	46	23	0.7352	665.5391	664.673	0.739	0.513
P-521	4.5398	5.7803	12	2.2261	46	22	5.437	46	22	0.4904	664.673	662.9003	0.513	0.55
P-522	4.5401	5.7806	12	2.2259	46	23	5.0859	46	22	0.4903	662.9003	661.0174	0.55	0.497
P-2909	5.6646	7.2124	12	2.636	46	22	6.7147	46	22	0.4654	661.0174	658.339	0.497	0.523
P-2910	5.6645	7.2123	12	2.6347	46	23	6.3666	0	6	0.4651	658.339	656.3943	0.523	1.224
P-2915	2.6308	3.3497	12	2.8505	46	26	3.5459	46	26	1.0835	656.3943	655.5809	1.224	1.061
P-2916	2.6316	3.3507	12	2.8505	46	27	3.659	46	27	1.0832	655.5809	654.4984	1.061	0.628
P-195	4.4178	5.6249	12	3.024	46	27	5.7895	46	27	0.6845	654.4984	651.9295	0.628	0.657
P-196	4.4186	5.6259	12	3.0238	46	28	5.3681	45	40	0.6843	651.9295	650.1494	0.657	1.096
P-506	1.43	4.0926	8.004	0.2152	46	15	2.7212	46	16	0.1505	684.109	680.668	0.283	0.222
P-507	2.0242	5.793	8.004	0.2148	46	17	3.7234	46	17	0.1061	680.668	673.8662	0.222	0.219
P-501	1.3361	3.8238	8.004	0.1829	46	15	2.6355	46	16	0.1369	689.6787	688.097	0.253	0.25
P-502	1.3293	3.8045	8.004	0.1827	46	16	2.4366	46	16	0.1374	688.097	686.6112	0.25	0.407
P-503	0.9141	2.6162	8.004	0.3108	46	18	2.3184	46	18	0.34	686.6112	685.7514	0.407	0.422
P-504	0.9016	2.5802	8.004	0.3103	46	20	2.2398	46	21	0.3442	685.7514	684.8477	0.422	0.386
P-899	1.2808	3.6656	8.004	0.1291	46	15	2.2428	46	15	0.1008	690.3929	689.7078	0.214	0.282
P-901	0.9056	2.5917	8.004	0.1288	46	16	1.6624	46	17	0.1423	689.7078	688.5515	0.282	0.197
P-904	1.5122	4.3279	8.004	0.1287	46	18	3.1206	0	4	0.0851	688.5515	686.6112	0.197	0.407
P-265	3.167	9.0637	8.004	0.0431	46	15	2.2138	46	15	0.0136	688.3444	683.3253	0.082	0.263
P-266	3.1056	8.8879	8.004	0.47	46	19	5.8474	46	18	0.1513	683.3253	673.7962	0.263	0.429
P-505	1.2636	3.6163	8.004	0.4699	46	20	3.1152	46	21	0.3719	673.7962	672.8892	0.429	0.602
P-267	1.2628	3.6141	8.004	0.802	46	18	3.6539	46	19	0.6351	672.8892	671.9608	0.602	0.601
P-268	1.2635	3.6161	8.004	0.8019	46	19	3.6243	46	19	0.6346	671.9608	670.3121	0.601	0.648
P-261	0.9951	2.848	8.004	0.1289	46	16	1.9345	46	16	0.1295	672.3839	671.382	0.246	0.243
P-262	0.7876	2.254	8.004	0.1287	46	17	1.2556	46	17	0.1634	670.8223	670.3121	0.273	0.888
P-269	2.1639	6.1929	8.004	0.2585	46	15	4.1207	46	15	0.1195	681.8469	677.8407	0.235	0.236
P-270	2.1636	6.1921	8.004	0.2584	46	16	4.1005	46	16	0.1194	677.8407	673.8325	0.236	0.233
P-271	2.1638	6.1925	8.004	0.2582	46	16	2.9615	46	16	0.1193	673.8325	668.1738	0.233	0.845
P-263	2.5185	7.2078	8.004	0.1507	46	15	3.9204	46	16	0.0598	681.0714	674.3304	0.167	0.165
P-264	2.5251	7.2266	8.004	0.1505	46	16	2.2958	46	15	0.0596	674.3304	668.1738	0.165	0.845
P-272	3.2315	9.2483	8.004	0.1183	46	15	4.0201	46	15	0.0366	679.877	667.9262	0.131	0.204
P-273	1.2929	3.7002	8.004	0.118	46	16	2.1651	44	46	0.0913	667.9262	666.0556	0.204	0.353
P-259	1.941	5.5551	8.004	0.2128	46	15	3.6044	46	16	0.1096	674.0705	669.592	0.226	0.223
P-260	1.9413	5.5558	8.004	0.2126	46	16	3.4672	45	15	0.1095	669.592	666.0556	0.223	0.353
P-278	1.8801	5.3806	8.004	0.2007	46	15	3.4565	46	15	0.1068	681.4387	677.5666	0.223	0.22
P-277	2.4706	7.0705	8.004	0.2007	46	16	4.2053	46	16	0.0812	677.5485	670.7382	0.193	0.207
P-283	2.1307	6.0978	8.004	0.2005	46	17	2.643	46	16	0.0941	670.7382	664.673	0.207	0.769
P-284	2.9795	8.5271	8.004	0	0	0	0	0	0	0	670.7382	670.7382	0	0
P-257	1.9186	5.4908	8.004	0.1417	46	15	3.19	46	15	0.0739	681.513	676.5638	0.184	0.186
P-258	1.9321	5.5295	8.004	0.1414	46	17	3.164	46	17	0.0732	676.5638	671.5414	0.186	0.182
P-308	3.0003	8.5867	8.004	0.2009	46	15	4.4569	46	15	0.067	679.3168	670.4064	0.175	0.279
P-311	1.201	3.4372	8.004	0.2004	46	16	2.5137	46	17	0.1669	670.4064	668.6042	0.279	0.276
P-276	1.202	3.4401	8.004	0.2002	46	18	2.4858	46	18	0.1665	663.5579	661.604	0.282	0.276
P-275	0.8076	2.3113	8.004	0.2118	46	18	1.8178	46	18	0.2623	667.8808	667.0316	0.373	0.317
P-208	2.2051	6.3109	8.004	0.1888	46	15	3.8241	46	16	0.0856	678.7528	671.5518	0.199	0.198
P-207	2.6764	7.6596	8.004	0.1888	46	16	4.3618	46	17	0.0706	669.141	662.6597	0.181	0.179
P-205	2.6816	7.6744	8.004	0.1888	46	17	16.5301	0	2	0.0704	662.6597	656.4314	0.179	0.542
P-204	0.9306	2.6633	8.004	0.1912	46	35	1.7392	42	37	0.2054	656.4314	656.3943	0.542	1.341
P-199	0.9548	2.7327	8.004	0.0382	46	16	1.3238	46	16	0.04	657.7911	656.5442	0.137	0.137
P-202	0.9429	2.6985	8.004	0.038	46	18	0.9515	42	30	0.0403	656.5442	656.3943	0.137	1.341
P-211	2.2668	6.4873	8.004	0.1772	46	15	3.6434	46	15	0.0782	672.753	669.7464	0.199	0.174
P-209	2.6625	7.62	8.004	0.1771	46	15	4.0401	46	15	0.0665	669.7464	660.518	0.174	0.252
P-210	1.3029	3.7288	8.004	0.1766	46	17	2.8969	0	2	0.1356	660.518	658.5856	0.252	0.248
P-3077	21.7997	12.3361	18	12.4814	46	45	11.9862	46	45	0.5725	675.7707	665.4735	0.574	0.542
P-3073	26.1881	14.8194	18	12.4762	46	45	12.9151	46	46	0.4764	665.4735	652.2791	0.542	0.486
P-3067	15.7527	8.9142	18	12.1537	46	8	7.7735	42	43	0.7715	651.7845	647.9426	1.283	2.268
P-3069	5.5605	3.1466	18	11.4205	46	46	6.4145	46	46	2.0539	647.9426	646.2854	2.268	1.377
P-3070	11.0648	6.2614	18	11.4205	46	46	6.5081	46	46	1.0321	646.2854	644.1901	1.377	0.853
P-3088	3.55	10.1599	8.004	0.1417	46	15	4.0134	46	15	0.0399	669.7707	651.711	0.136	0.316
P-3092	1.4511	4.1529	8.004	0.3041	46	16	3.2124	46	17	0.2096	651.711	650.0078	0.316	0.312
P-3093	1.443	4.1297	8.004	0.304	46	17	2.5473	46	17	0.2107	650.0078	648.8198	0.312	1.049
P-17061	13.1123	10.6849	15	3.3207	46	28	5.1897	46	28	0.2532	648.8198	647.9883	0.536	0.343
P-2956	9.9182	5.6125	18	0.3736	46	46	2.1621	46	46	0.0377	651.7845	651.567	0.156	0.131
P-2957	14.0776	7.9663	18	0.3679	46	46	1.9347	46	46	0.0261	651.3364	647.8812	0.111	0.521
P-2958	8.7309	4.9407	18	4.3295	46	47	4.6817	46	48	0.4959	647.8812	646.2364	0.521	0.498
P-197	2.7358	3.4834	12	3.0236	46	29	3.8053	46	29	1.1052	650.1494	648.8198	1.096	0.7
P-274	0.8077	2.3116	8.004	0.2126	46	15	1.9164	46	16	0.2632	668.6551	667.8808	0.352	0.373
P-2917	1.6007	2.9584	9.96	0	0	0	0	0	0	0	654.4984	654.4984	0	0
P-198	3.6852	6.811	9.96	0.1626	46	15	3.3215	46	15	0.0441	657.7911	655.0976	0.146	0.142
P-1000	3.0205	5.5424	9.996	-0.7532	46	8	4.2035	47	22	-0.2494	647.8812	647.9426	0.542	1.156
FREE	#	1	Undefnd	Undefnd	Undefn	11.4205	46	46						
FREE	#	2	Undefnd	Undefnd	Undefn	4.3295	46	47						

Table 5
10-Year Recurrence Interval Event - Modeling Results - Conveyance Design Conditions
Pipe Summary - North Basin

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-1002	688.01	679.257	678.59	0	0	0	9.42	12.566	0	0	0
MH-1003	680.47	670.887	670.4172	46	16	0	10.0528	12.566	0	0	0
MH-1004	686.45	679.867	679.3232	46	15	0	7.1268	12.566	0	0	0
MH-16339	678.6	678.087	677.5556	46	16	0	1.0444	12.566	0	0	0
MH-16365	694.8	686.137	685.7705	46	20	0	9.0295	12.566	0	0	0
MH-16366	692.73	685.257	683.3358	46	19	0	9.3942	12.566	0	0	0
MH-16369	677.35	667.487	661.0547	46	22	0	16.2953	12.566	0	0	0
MH-1822	687.46	675.707	675.2053	46	17	0	12.2547	12.566	0	0	0
MH-1823	692.89	682.807	682.2858	46	16	0	10.6042	12.566	0	0	0
MH-1824	700.02	689.907	689.3875	46	15	0	10.6325	12.566	0	0	0
MH-1885	694.17	687.007	686.6292	46	18	0	7.5408	12.566	0	0	0
MH-1886	697.35	688.597	688.1069	46	16	0	9.2431	12.566	0	0	0
MH-1888	698.76	690.177	689.6889	46	15	0	9.0711	12.566	0	0	0
MH-1891	682.47	674.387	672.9222	46	17	0	9.5478	12.566	0	0	0
MH-1893	690.94	681.187	680.6767	46	17	0	10.2633	12.566	0	0	0
MH-1895	696.5	684.587	684.1204	46	15	0	12.3796	12.566	0	0	0
MH-3088	698.25	689.087	688.5591	46	17	0	9.6909	12.566	0	0	0
MH-3089	700.35	690.187	689.719	46	16	0	10.631	12.566	0	0	0
MH-3090	699.25	690.917	690.4013	46	15	0	8.8487	12.566	0	0	0
MH-320	660.66	644.41	644.2076	46	17	0	16.4524	12.566	0	0	0
MH-343	660.87	647.813	648.0924	46	16	0.2794	12.7776	12.566	0	0	0
MH-354	660.62	650.303	649.8625	46	24	0	10.7575	12.566	0	0	0
MH-355	666.12	652.522	651.8528	46	24	0	14.2672	12.566	0	0	0
MH-356	670.73	659.087	654.4593	46	23	0	16.2707	12.566	0	0	0
MH-357	662.42	655.81	651.7231	46	16	0	10.6969	12.566	0	0	0
MH-358	666.59	658.5	657.7973	46	15	0	8.7927	12.566	0	0	0
MH-374	666.5	657.67	655.975	46	23	0	10.525	12.566	0	0	0
MH-375	664.75	657.12	656.5504	46	18	0	8.1996	12.566	0	0	0
MH-396	668.15	656.737	656.2868	46	18	0	11.8632	12.566	0	0	0
MH-4199	692.91	676.41	675.8288	46	15	0	17.0812	12.566	0	0	0
MH-466	675.12	663.207	662.6663	46	16	0	12.4537	12.566	0	0	0
MH-467	681.52	672.087	669.1477	46	16	0	12.3723	12.566	0	0	0
MH-468	689.87	679.287	678.7602	46	15	0	11.1098	12.566	0	0	0
MH-470	672.35	661.017	660.5277	46	17	0	11.8223	12.566	0	0	0
MH-471	681.46	670.297	669.7527	46	15	0	11.7073	12.566	0	0	0
MH-472	682.45	673.287	672.7603	46	15	0	9.6897	12.566	0	0	0
MH-5152	670.49	658.816	658.3559	46	22	0	12.1341	12.566	0	0	0
MH-5174	665.92	655.77	655.359	46	24	0	10.561	12.566	0	0	0
MH-5568	658.82	646.99	646.3867	46	17	0	12.4333	12.566	0	0	0
MH-5571	661.85	648.81	648.0478	46	17	0	13.8022	12.566	0	0	0
MH-5572	665.87	652.87	651.4977	46	16	0	14.3723	12.566	0	0	0
MH-5574	665.94	653.05	652.0631	46	15	0	13.8769	12.566	0	0	0
MH-5724	677.33	667.5	667.0353	46	20	0	10.2947	12.566	0	0	0
MH-6069	660.42	645.72	646.3721	46	17	0.6521	14.0479	12.566	0	0	0
MH-6075	681.16	666.16	665.5306	46	15	0	15.6294	12.566	0	0	0
MH-6090	662.05	649.4	648.8725	46	31	0	13.1775	12.566	0	0	0
MH-6092	682.68	670.347	669.7756	46	15	0	12.9044	12.566	0	0	0
MH-6168	663.92	650.467	650.0195	46	17	0	13.9005	12.566	0	0	0
MH-669	681.05	670.713	670.3453	46	19	0	10.7047	12.566	0	0	0
MH-670	689.72	671.887	670.8333	46	17	0	18.8867	12.566	0	0	0
MH-671	696.64	672.887	672.3939	46	15	0	24.2461	12.566	0	0	0
MH-672	678.61	668.443	668.2261	46	20	0	10.3839	12.566	0	0	0
MH-673	683.22	674.887	674.3366	46	16	0	8.8834	12.566	0	0	0
MH-674	690.96	681.627	681.0778	46	15	0	9.8822	12.566	0	0	0
MH-871	679.09	670.11	669.6003	46	16	0	9.4897	12.566	0	0	0
MH-877	685.75	674.587	674.079	46	15	0	11.671	12.566	0	0	0
MH-879	676.54	666.487	666.1239	46	22	0	10.4161	12.566	0	0	0
MH-884	681.49	672.087	664.7105	46	22	0	16.7795	12.566	0	0	0
MH-886	687.77	677.107	676.5706	46	16	0	11.1994	12.566	0	0	0
MH-887	688.81	682.057	681.5198	46	15	0	7.2902	12.566	0	0	0
MH-937	680.8	672.227	671.9941	46	18	0	8.8059	12.566	0	0	0
MH-938	682.09	674.177	673.8169	46	19	0	8.2731	12.566	0	0	0
MH-940	695.96	688.957	688.3473	46	15	0	7.6127	12.566	0	0	0
MH-943	682.72	674.344	673.8417	46	16	0	8.8783	12.566	0	0	0
MH-944	686.14	678.35	677.8501	46	15	0	8.2899	12.566	0	0	0
MH-946	691.27	682.357	681.8562	46	15	0	9.4138	12.566	0	0	0
MH-961	679.46	668.457	667.9336	46	16	0	11.5264	12.566	0	0	0
MH-962	689.04	680.457	679.8817	46	15	0	9.1583	12.566	0	0	0
MH-968	681.12	668.299	667.8962	46	18	0	13.2238	12.566	0	0	0
MH-969	680.17	669.087	668.6693	46	15	0	11.5007	12.566	0	0	0
MH-976	678.37	669.087	663.5689	46	18	0	14.8011	12.566	0	0	0
MH-983	680.15	663.35	662.9419	46	23	0	17.2081	12.566	0	0	0
MH-986	678.74	665.8	665.6047	46	22	0	13.1353	12.566	0	0	0
MH-991	681.04	671.747	670.7458	46	17	0	10.2942	12.566	0	0	0
MH-993	688.87	681.957	681.447	46	15	0	7.423	12.566	0	0	0

Table 5
10-Year Recurrence Interval Event - Modeling Results - Conveyance Design Conditions
Pipe Summary - North Basin

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends Upstream (ft)	Maximum Water Elevation at Pipe Ends Downstream (ft)	Ratio d/D US	Ratio d/D DS
P-485	2.4042	6.8805	8.004	0.2532	46	15	4.4106	46	16	0.1053	689.3875	682.2858	0.221	0.219
P-486	2.4128	6.9053	8.004	0.253	46	16	4.3884	46	16	0.1049	682.2858	675.2053	0.219	0.248
P-487	1.8758	5.3683	8.004	0.2528	46	17	2.9137	46	16	0.1348	675.2053	670.3453	0.248	0.698
P-671	2.2315	4.0946	9.996	1.2941	46	19	3.9825	46	20	0.5799	670.3453	668.2261	0.559	0.74
P-2983	2.1464	3.9385	9.996	1.7485	46	20	4.1067	46	21	0.8146	668.2261	667.0353	0.74	0.643
P-2985	3.5004	4.4569	12	1.7484	46	21	3.8969	46	20	0.4995	667.0353	666.1239	0.535	0.754
P-2981	2.5683	3.2701	12	2.1124	46	21	3.3047	46	20	0.8225	666.1239	665.6047	0.754	0.805
P-2979	2.5669	3.2683	12	2.1121	46	22	3.2306	46	23	0.8228	665.6047	664.7105	0.805	0.551
P-521	4.5398	5.7803	12	2.4895	46	22	5.5662	46	23	0.5484	664.7105	662.9419	0.551	0.592
P-522	4.5401	5.7806	12	2.4894	46	23	5.2039	46	23	0.5483	662.9419	661.0547	0.592	0.535
P-2909	5.6646	7.2124	12	2.9462	46	22	6.8858	46	23	0.5201	661.0547	658.3559	0.535	0.54
P-2910	5.6645	7.2123	12	2.9461	46	23	6.4454	46	23	0.5201	658.3559	655.975	0.54	0.805
P-2915	4.77	3.887	15	3.1976	46	23	3.8098	46	23	0.6704	655.975	655.359	0.644	0.671
P-2916	4.7714	3.8881	15	3.1975	46	24	3.7844	46	24	0.6701	655.359	654.4593	0.671	0.471
P-195	8.01	6.5271	15	3.3923	46	24	5.9733	46	25	0.4235	654.4593	651.8528	0.471	0.465
P-196	8.0114	6.5283	15	3.3922	46	24	5.7835	46	25	0.4234	651.8528	649.8625	0.465	0.648
P-506	1.43	4.0926	8.004	0.2411	46	15	2.8091	46	16	0.1686	684.1204	680.6767	0.301	0.235
P-507	2.0242	5.793	8.004	0.2406	46	17	3.8515	46	17	0.1189	680.6767	673.875	0.235	0.232
P-501	1.3361	3.8238	8.004	0.2049	46	15	2.7201	46	16	0.1534	689.6889	688.1069	0.268	0.265
P-502	1.3293	3.8045	8.004	0.2047	46	16	2.5157	46	16	0.154	688.1069	686.6292	0.265	0.434
P-503	0.9141	2.6162	8.004	0.3483	46	18	2.3866	46	18	0.381	686.6292	685.7705	0.434	0.45
P-504	0.9016	2.5802	8.004	0.3478	46	20	2.3045	46	21	0.3858	685.7705	684.8635	0.45	0.41
P-899	1.2808	3.6656	8.004	0.1447	46	15	2.3184	46	15	0.1129	690.4013	689.719	0.227	0.298
P-901	0.9056	2.5917	8.004	0.1444	46	16	1.7167	46	17	0.1594	689.719	688.5591	0.298	0.209
P-904	1.5122	4.3279	8.004	0.1442	46	17	3.1206	0	4	0.0954	688.5591	686.6292	0.209	0.434
P-265	3.167	9.0637	8.004	0.0483	46	15	2.2867	46	15	0.0153	688.3473	683.3358	0.086	0.279
P-266	3.1056	8.8879	8.004	0.5267	46	19	6.0335	46	18	0.1696	683.3358	673.8169	0.279	0.46
P-505	1.2636	3.6163	8.004	0.5266	46	19	3.1857	46	21	0.4168	673.8169	672.9222	0.46	0.651
P-267	1.2628	3.6141	8.004	0.8987	46	18	3.7334	46	18	0.7117	672.9222	671.9941	0.651	0.651
P-268	1.2635	3.6161	8.004	0.8986	46	18	3.7034	46	19	0.7112	671.9941	670.3453	0.651	0.698
P-261	0.9951	2.848	8.004	0.1444	46	16	1.9948	46	16	0.1451	672.3939	671.3913	0.261	0.257
P-262	0.7876	2.254	8.004	0.1442	46	17	1.3153	46	17	0.1831	670.8333	670.3453	0.29	0.937
P-269	2.1639	6.1929	8.004	0.2896	46	15	4.2541	46	15	0.1338	681.8562	677.8501	0.249	0.251
P-270	2.1636	6.1921	8.004	0.2895	46	15	4.232	46	16	0.1338	677.8501	673.8417	0.251	0.247
P-271	2.1638	6.1925	8.004	0.2893	46	16	3.0744	46	16	0.1337	673.8417	668.2261	0.247	0.924
P-263	2.5185	7.2078	8.004	0.1688	46	15	4.0499	46	16	0.067	681.0778	674.3366	0.177	0.175
P-264	2.5251	7.2266	8.004	0.1687	46	16	2.3868	46	15	0.0668	674.3366	668.2261	0.175	0.924
P-272	3.2315	9.2483	8.004	0.1318	46	15	4.1504	46	15	0.0408	679.8817	667.9336	0.137	0.215
P-273	1.2929	3.7002	8.004	0.1315	46	16	2.1574	44	36	0.1017	667.9336	666.1239	0.215	0.456
P-259	1.941	5.5551	8.004	0.2371	46	15	3.7199	46	16	0.1222	674.079	669.6003	0.238	0.236
P-260	1.9413	5.5558	8.004	0.2369	46	16	3.461	44	40	0.122	669.6003	666.1239	0.236	0.456
P-278	1.8801	5.3806	8.004	0.2237	46	15	3.5693	46	15	0.119	681.447	677.5751	0.235	0.232
P-277	2.4706	7.0705	8.004	0.2237	46	16	4.343	46	16	0.0905	677.5556	670.7458	0.203	0.219
P-283	2.1307	6.0978	8.004	0.2235	46	17	2.7371	46	16	0.1049	670.7458	664.7105	0.219	0.825
P-284	2.9795	8.5271	8.004	0	0	0	0	0	0	0	670.7458	670.7458	0	0
P-257	1.9186	5.4908	8.004	0.1579	46	15	3.2949	46	15	0.0823	681.5198	676.5706	0.195	0.196
P-258	1.9321	5.5295	8.004	0.1576	46	17	3.2697	46	17	0.0816	676.5706	671.5484	0.196	0.193
P-308	3.0003	8.5867	8.004	0.2239	46	15	4.5997	46	15	0.0746	679.3232	670.4172	0.185	0.296
P-311	1.201	3.4372	8.004	0.2233	46	16	2.5881	46	17	0.1859	670.4172	668.6145	0.296	0.292
P-276	1.202	3.4401	8.004	0.2231	46	18	2.5577	46	18	0.1856	663.5689	661.6144	0.298	0.291
P-275	0.8076	2.3113	8.004	0.2361	46	18	1.8699	46	18	0.2923	667.8962	667.0435	0.396	0.335
P-208	2.2051	6.3109	8.004	0.2104	46	15	3.9399	46	16	0.0954	678.7602	671.5588	0.21	0.208
P-207	2.6764	7.6596	8.004	0.2104	46	16	4.5024	46	17	0.0786	669.1477	662.6663	0.192	0.189
P-205	2.6816	7.6744	8.004	0.2104	46	16	16.5301	0	2	0.0784	662.6663	656.2868	0.189	0.325
P-204	0.9306	2.6633	8.004	0.2101	46	18	1.8357	45	47	0.2257	656.2868	655.975	0.325	0.712
P-199	0.9548	2.7327	8.004	0.0438	46	15	1.3788	46	16	0.0458	657.7973	656.5504	0.146	0.146
P-202	0.9429	2.6985	8.004	0.0436	46	18	1.0132	42	31	0.0462	656.5504	655.975	0.146	0.712
P-211	2.2668	6.4873	8.004	0.1975	46	15	3.7549	46	15	0.0871	672.7603	669.7527	0.21	0.184
P-209	2.6625	7.62	8.004	0.1973	46	15	4.1701	46	15	0.0741	669.7527	660.5277	0.184	0.266
P-210	1.3029	3.7288	8.004	0.1969	46	17	2.8969	0	2	0.1511	660.5277	658.5948	0.266	0.262
P-3077	21.7997	12.3361	18	13.8042	46	15	12.2547	46	15	0.6332	675.8288	665.5306	0.613	0.58
P-3073	26.1881	14.8194	18	13.7974	46	15	13.1524	46	16	0.5269	665.5306	652.3238	0.58	0.516
P-3067	15.7527	8.9142	18	12.3185	46	15	7.7944	42	35	0.782	652.0631	648.0924	1.469	2.368
P-3069	5.5605	3.1466	18	11.6414	46	16	6.5346	46	16	2.0936	648.0924	646.3721	2.368	1.435
P-3070	11.0648	6.2614	18	11.6414	46	17	6.625	46	17	1.0521	646.3721	644.2076	1.435	0.865
P-3088	3.55	10.1599	8.004	0.158	46	15	4.1449	46	15	0.0445	669.7756	651.7231	0.143	0.334
P-3092	1.4511	4.1529	8.004	0.3378	46	16	3.3034	46	17	0.2328	651.7231	650.0195	0.334	0.329
P-3093	1.443	4.1297	8.004	0.3376	46	17	2.666	46	17	0.234	650.0195	648.8725	0.329	1.128
P-17061	13.1123	10.6849	15	3.7207	46	25	5.3824	46	17	0.2838	648.8725	648.0478	0.578	0.39
P-2956	9.9182	5.6125	18	1.4786	46	16	2.8561	46	16	0.1491	652.0631	651.7604	0.342	0.26
P-2957	14.0776	7.9663	18	1.4749	46	16	3.935	46	16	0.1048	651.4977	648.0478	0.218	0.632
P-2958	8.7309	4.9407	18	5.8305	46	17	4.9898	46	18	0.6678	648.0478	646.3867	0.632	0.598
P-197	4.9604	4.0421	15	3.3933	46	25	4.0759	46	29	0.6841	649.8625	648.8725	0.648	0.602
P-274	0.8077	2.3116	8.004	0.2369	46	15	1.9721	46	16	0.2933	668.6693	667.8962	0.374	0.396
P-2917	2.6308	3.3497	12	0	0	0	0	0	0	0	654.4593	654.4593	0	0
P-198	3.6852	6.811	9.96	0.18	46	15	3.4264	46	15	0.0489	657.7973	655.1039	0.153	0.149
P-1000	3.0205	5.5424	9.996	-0.7796	45	16	4.0972	47	30	-0.2581	648.0478	648.0924	0.742	1.335
FREE	#	1	Undefnd	Undefnd	Undefn	11.6414	46	17						
FREE	#	2	Undefnd	Undefnd	Undefn	5.8305	46	17						

Table 6
25-Year Recurrence Interval Event - Modeling Results - Conveyance Design Conditions
Pipe Summary - North Basin

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-1002	688.01	679.257	678.59	0	0	0	9.42	12.566	0	0	0
MH-1003	680.47	670.887	670.4318	46	16	0	10.0382	12.566	0	0	0
MH-1004	686.45	679.867	679.3319	46	15	0	7.1181	12.566	0	0	0
MH-16339	678.6	678.087	677.565	46	16	0	1.035	12.566	0	0	0
MH-16365	694.8	686.137	685.7969	46	20	0	9.0031	12.566	0	0	0
MH-16366	692.73	685.257	683.35	46	18	0	9.38	12.566	0	0	0
MH-16369	677.35	667.487	661.1043	46	22	0	16.2457	12.566	0	0	0
MH-1822	687.46	675.707	675.2177	46	16	0	12.2423	12.566	0	0	0
MH-1823	692.89	682.807	682.2966	46	16	0	10.5934	12.566	0	0	0
MH-1824	700.02	689.907	689.3986	46	15	0	10.6214	12.566	0	0	0
MH-1885	694.17	687.007	686.654	46	18	0	7.516	12.566	0	0	0
MH-1886	697.35	688.597	688.1203	46	16	0	9.2297	12.566	0	0	0
MH-1888	698.76	690.177	689.7027	46	15	0	9.0573	12.566	0	0	0
MH-1891	682.47	674.387	672.9721	46	17	0	9.4979	12.566	0	0	0
MH-1893	690.94	681.187	680.6884	46	17	0	10.2516	12.566	0	0	0
MH-1895	696.5	684.587	684.1359	46	15	0	12.3641	12.566	0	0	0
MH-3088	698.25	689.087	688.5693	46	17	0	9.6807	12.566	0	0	0
MH-3089	700.35	690.187	689.7343	46	16	0	10.6157	12.566	0	0	0
MH-3090	699.25	690.917	690.4126	46	15	0	8.8374	12.566	0	0	0
MH-320	660.66	644.41	644.2225	46	17	0	16.4375	12.566	0	0	0
MH-343	660.87	647.813	648.32	46	17	0.507	12.55	12.566	0	0	0
MH-354	660.62	650.303	649.9566	46	25	0	10.6634	12.566	0	0	0
MH-355	666.12	652.522	651.9068	46	24	0	14.2132	12.566	0	0	0
MH-356	670.73	659.087	654.5092	46	24	0	16.2208	12.566	0	0	0
MH-357	662.42	655.81	651.7397	46	16	0	10.6803	12.566	0	0	0
MH-358	666.59	658.5	657.8055	46	15	0	8.7845	12.566	0	0	0
MH-374	666.5	657.5	656.0653	46	23	0	10.4347	12.566	0	0	0
MH-375	664.75	657.12	656.5586	46	17	0	8.1914	12.566	0	0	0
MH-396	668.15	656.737	656.3128	46	18	0	11.8372	12.566	0	0	0
MH-4199	692.91	676.41	675.9133	46	15	0	16.9967	12.566	0	0	0
MH-466	675.12	663.207	662.6752	46	16	0	12.4448	12.566	0	0	0
MH-467	681.52	672.087	669.1568	46	15	0	12.3632	12.566	0	0	0
MH-468	689.87	679.287	678.7702	46	15	0	11.0998	12.566	0	0	0
MH-470	672.35	661.017	660.5406	46	17	0	11.8094	12.566	0	0	0
MH-471	681.46	670.297	669.7614	46	15	0	11.6986	12.566	0	0	0
MH-472	682.45	673.287	672.7703	46	15	0	9.6797	12.566	0	0	0
MH-5152	670.49	658.816	658.4155	46	23	0	12.0745	12.566	0	0	0
MH-5174	665.92	655.77	655.4428	46	24	0	10.4772	12.566	0	0	0
MH-5568	658.82	646.99	646.5802	46	17	0	12.2398	12.566	0	0	0
MH-5571	661.85	648.81	648.3108	46	17	0	13.5392	12.566	0	0	0
MH-5572	665.87	652.87	651.6586	46	16	0	14.2114	12.566	0	0	0
MH-5574	665.94	653.05	652.3657	46	15	0	13.5743	12.566	0	0	0
MH-5724	677.33	667.5	667.0968	46	20	0	10.2332	12.566	0	0	0
MH-6069	660.42	645.72	646.5017	46	17	0.7817	13.9183	12.566	0	0	0
MH-6075	681.16	666.16	665.6135	46	15	0	15.5465	12.566	0	0	0
MH-6090	662.05	649.4	648.8995	47	15	0	13.1505	12.566	0	0	0
MH-6092	682.68	670.347	669.7823	46	15	0	12.8977	12.566	0	0	0
MH-6168	663.92	650.467	650.0355	46	17	0	13.8845	12.566	0	0	0
MH-669	681.05	670.713	670.3944	46	19	0	10.6556	12.566	0	0	0
MH-670	689.72	671.887	670.8481	46	17	0	18.8719	12.566	0	0	0
MH-671	696.64	672.887	672.4071	46	15	0	24.2329	12.566	0	0	0
MH-672	678.61	668.443	668.3103	46	19	0	10.2997	12.566	0	0	0
MH-673	683.22	674.887	674.3451	46	16	0	8.8749	12.566	0	0	0
MH-674	690.96	681.627	681.0865	46	15	0	9.8735	12.566	0	0	0
MH-871	679.09	670.11	669.6115	46	16	0	9.4785	12.566	0	0	0
MH-877	685.75	674.587	674.0904	46	15	0	11.6596	12.566	0	0	0
MH-879	676.54	666.487	666.2505	46	22	0	10.2895	12.566	0	0	0
MH-884	681.49	672.087	664.7643	46	22	0	16.7257	12.566	0	0	0
MH-886	687.77	677.107	676.5798	46	16	0	11.1902	12.566	0	0	0
MH-887	688.81	682.057	681.5289	46	15	0	7.2811	12.566	0	0	0
MH-937	680.8	672.227	672.045	46	18	0	8.755	12.566	0	0	0
MH-938	682.09	674.177	673.8452	46	19	0	8.2448	12.566	0	0	0
MH-940	695.96	688.957	688.3512	46	15	0	7.6088	12.566	0	0	0
MH-943	682.72	674.344	673.854	46	16	0	8.866	12.566	0	0	0
MH-944	686.14	678.35	677.8628	46	15	0	8.2772	12.566	0	0	0
MH-946	691.27	682.357	681.8687	46	15	0	9.4013	12.566	0	0	0
MH-961	679.46	668.457	667.9437	46	16	0	11.5163	12.566	0	0	0
MH-962	689.04	680.457	679.888	46	15	0	9.152	12.566	0	0	0
MH-968	681.12	668.299	667.9172	46	18	0	13.2028	12.566	0	0	0
MH-969	680.17	669.087	668.6888	46	15	0	11.4812	12.566	0	0	0
MH-976	678.37	669.087	663.5838	46	18	0	14.7862	12.566	0	0	0
MH-983	680.15	663.35	663.0032	46	23	0	17.1468	12.566	0	0	0
MH-986	678.74	665.8	665.7155	46	23	0	13.0245	12.566	0	0	0
MH-991	681.04	671.747	670.7561	46	17	0	10.2839	12.566	0	0	0
MH-993	688.87	681.957	681.4583	46	15	0	7.4117	12.566	0	0	0

Table 6
25-Year Recurrence Interval Event - Modeling Results - Conveyance Design Conditions
Pipe Summary - North Basin

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends Upstream (ft)	Maximum Water Elevation at Pipe Ends Downstream (ft)	Ratio d/D US	Ratio d/D DS
P-485	2.4042	6.8805	8.004	0.2921	46	15	4.597	46	16	0.1215	689.3986	682.2966	0.238	0.235
P-486	2.4128	6.9053	8.004	0.2918	46	16	4.5766	46	16	0.1209	682.2966	675.2177	0.235	0.266
P-487	1.8758	5.3683	8.004	0.2915	46	17	3.0314	46	16	0.1554	675.2177	670.3944	0.266	0.771
P-671	2.2315	4.0946	9.996	1.4929	46	19	4.0703	46	19	0.669	670.3944	668.3103	0.618	0.841
P-2983	2.1464	3.9385	9.996	2.0173	46	19	4.1866	46	21	0.9398	668.3103	667.0968	0.841	0.716
P-2985	3.5004	4.4569	12	2.0169	46	20	3.9361	45	50	0.5762	667.0968	666.2505	0.597	0.881
P-2981	2.5683	3.2701	12	2.432	46	22	3.3224	45	46	0.9469	666.2505	665.7155	0.881	0.915
P-2979	2.5669	3.2683	12	2.4317	46	23	3.3421	46	23	0.9473	665.7155	664.7643	0.915	0.604
P-521	4.5398	5.7803	12	2.8638	46	22	5.7181	46	23	0.6308	664.7643	663.0032	0.604	0.653
P-522	4.5401	5.7806	12	2.8636	46	23	5.3366	46	23	0.6307	663.0032	661.1043	0.653	0.584
P-2909	5.6646	7.2124	12	3.3867	46	22	7.0851	46	23	0.5979	661.1043	658.4155	0.584	0.6
P-2910	5.6645	7.2123	12	3.3866	46	23	6.5572	46	23	0.5979	658.4155	656.0653	0.6	0.895
P-2915	4.77	3.887	15	3.6758	46	23	3.8957	46	24	0.7706	656.0653	655.4428	0.716	0.738
P-2916	4.7714	3.8881	15	3.6756	46	24	3.9232	46	25	0.7703	655.4428	654.5092	0.738	0.511
P-195	8.01	6.5271	15	3.8987	46	24	6.1803	46	25	0.4867	654.5092	651.9068	0.511	0.508
P-196	8.0114	6.5283	15	3.8986	46	25	5.9222	46	25	0.4866	651.9068	649.9566	0.508	0.723
P-506	1.43	4.0926	8.004	0.2781	46	15	2.9251	46	16	0.1945	684.1359	680.6884	0.324	0.252
P-507	2.0242	5.793	8.004	0.2775	46	17	4.0093	46	17	0.1371	680.6884	673.8865	0.252	0.25
P-501	1.3361	3.8238	8.004	0.2363	46	15	2.8297	46	16	0.1769	689.7027	688.1203	0.289	0.285
P-502	1.3293	3.8045	8.004	0.2361	46	16	2.6186	46	16	0.1776	688.1203	686.654	0.285	0.471
P-503	0.9141	2.6162	8.004	0.4018	46	18	2.4721	46	18	0.4395	686.654	685.7969	0.471	0.49
P-504	0.9016	2.5802	8.004	0.4012	46	20	2.3856	46	21	0.445	685.7969	684.8849	0.49	0.442
P-899	1.2808	3.6656	8.004	0.1668	46	15	2.4175	46	15	0.1303	690.4126	689.7343	0.244	0.321
P-901	0.9056	2.5917	8.004	0.1665	46	16	1.7889	46	17	0.1839	689.7343	688.5693	0.321	0.224
P-904	1.5122	4.3279	8.004	0.1664	46	17	3.1206	0	4	0.11	688.5693	686.654	0.224	0.471
P-265	3.167	9.0637	8.004	0.0557	46	15	2.3814	46	15	0.0176	688.3512	683.35	0.092	0.3
P-266	3.1056	8.8879	8.004	0.6075	46	18	6.2675	46	18	0.1956	683.35	673.8452	0.3	0.503
P-505	1.2636	3.6163	8.004	0.6074	46	19	3.2767	46	20	0.4807	673.8452	672.9721	0.503	0.726
P-267	1.2628	3.6141	8.004	1.0365	46	18	3.8157	46	18	0.8208	672.9721	672.045	0.726	0.727
P-268	1.2635	3.6161	8.004	1.0363	46	18	3.7847	46	19	0.8202	672.045	670.3944	0.727	0.771
P-261	0.9951	2.848	8.004	0.1666	46	16	2.0784	46	16	0.1674	672.4071	671.4045	0.281	0.277
P-262	0.7876	2.254	8.004	0.1664	46	17	1.3987	46	17	0.2112	670.8481	670.3944	0.312	1.011
P-269	2.1639	6.1929	8.004	0.334	46	15	4.4268	46	15	0.1544	681.8687	677.8628	0.268	0.27
P-270	2.1636	6.1921	8.004	0.3339	46	15	4.4022	46	16	0.1543	677.8628	673.854	0.27	0.265
P-271	2.1638	6.1925	8.004	0.3337	46	16	3.2504	46	16	0.1542	673.854	668.3103	0.265	1.05
P-263	2.5185	7.2078	8.004	0.1947	46	15	4.2222	46	16	0.0773	681.0865	674.3451	0.19	0.188
P-264	2.5251	7.2266	8.004	0.1945	46	16	2.5383	46	15	0.077	674.3451	668.3103	0.188	1.05
P-272	3.2315	9.2483	8.004	0.1511	46	15	4.3246	46	15	0.0467	679.888	667.9437	0.147	0.23
P-273	1.2929	3.7002	8.004	0.1508	46	16	2.1807	42	47	0.1166	667.9437	666.2505	0.23	0.645
P-259	1.941	5.5551	8.004	0.2718	46	15	3.8635	46	16	0.14	674.0904	669.6115	0.255	0.253
P-260	1.9413	5.5558	8.004	0.2716	46	16	3.461	42	50	0.1399	669.6115	666.2505	0.253	0.645
P-278	1.8801	5.3806	8.004	0.2565	46	15	3.7084	46	15	0.1364	681.4583	677.5861	0.252	0.249
P-277	2.4706	7.0705	8.004	0.2564	46	16	4.5173	46	15	0.1038	677.565	670.7561	0.217	0.234
P-283	2.1307	6.0978	8.004	0.2562	46	17	2.8717	46	16	0.1202	670.7561	664.7643	0.234	0.906
P-284	2.9795	8.5271	8.004	0	0	0	0	0	0	0	670.7561	670.7561	0	0
P-257	1.9186	5.4908	8.004	0.1811	46	15	3.4276	46	15	0.0944	681.5289	676.5798	0.208	0.21
P-258	1.9321	5.5295	8.004	0.1807	46	16	3.3993	46	17	0.0935	676.5798	671.5575	0.21	0.206
P-308	3.0003	8.5867	8.004	0.2567	46	15	4.7909	46	15	0.0856	679.3319	670.4318	0.198	0.318
P-311	1.201	3.4372	8.004	0.256	46	16	2.6888	46	17	0.2132	670.4318	668.6289	0.318	0.313
P-276	1.202	3.4401	8.004	0.2558	46	18	2.6549	46	18	0.2128	663.5838	661.6287	0.321	0.313
P-275	0.8076	2.3113	8.004	0.2706	46	18	1.9378	46	18	0.3351	667.9172	667.0602	0.428	0.36
P-208	2.2051	6.3109	8.004	0.2412	46	15	4.0953	46	15	0.1094	678.7702	671.5685	0.225	0.223
P-207	2.6764	7.6596	8.004	0.2413	46	16	4.6848	46	16	0.0901	669.1568	662.6752	0.205	0.203
P-205	2.6816	7.6744	8.004	0.2412	46	16	16.5301	0	2	0.0899	662.6752	656.3128	0.203	0.364
P-204	0.9306	2.6633	8.004	0.2406	46	18	1.853	44	47	0.2585	656.3128	656.0653	0.364	0.848
P-199	0.9548	2.7327	8.004	0.0515	46	15	1.4496	46	16	0.0539	657.8055	656.5586	0.158	0.158
P-202	0.9429	2.6985	8.004	0.0513	46	17	1.034	42	30	0.0544	656.5586	656.0653	0.158	0.848
P-211	2.2668	6.4873	8.004	0.2264	46	15	3.9029	46	15	0.0999	672.7703	669.7614	0.225	0.197
P-209	2.6625	7.62	8.004	0.2262	46	15	4.3446	46	15	0.085	669.7614	660.5406	0.197	0.286
P-210	1.3029	3.7288	8.004	0.2257	46	17	2.8969	0	2	0.1733	660.5406	658.6078	0.286	0.282
P-3077	21.7997	12.3361	18	15.6939	46	15	12.5774	46	15	0.7199	675.9133	665.6135	0.669	0.636
P-3073	26.1881	14.8194	18	15.6862	46	15	13.4364	46	16	0.599	665.6135	652.3866	0.636	0.558
P-3067	15.7527	8.9142	18	12.4537	46	15	7.8194	42	30	0.7906	652.3657	648.32	1.67	2.52
P-3069	5.5605	3.1466	18	11.9773	46	17	6.717	46	17	2.154	648.32	646.5017	2.52	1.521
P-3070	11.0648	6.2614	18	11.9774	46	17	6.8068	46	17	1.0825	646.5017	644.2225	1.521	0.875
P-3088	3.55	10.1599	8.004	0.1811	46	15	4.3191	46	15	0.051	669.7823	651.7397	0.153	0.359
P-3092	1.4511	4.1529	8.004	0.3859	46	16	3.4232	46	17	0.2659	651.7397	650.0355	0.359	0.353
P-3093	1.443	4.1297	8.004	0.3857	46	17	2.8377	46	17	0.2673	650.0355	648.8995	0.353	1.169
P-17061	13.1123	10.6849	15	4.2767	46	25	5.6689	46	31	0.3262	648.8995	648.3108	0.6	0.601
P-2956	9.9182	5.6125	18	3.2328	46	16	3.4098	46	16	0.3259	652.3657	651.9589	0.544	0.393
P-2957	14.0776	7.9663	18	3.2299	46	16	5.3614	46	16	0.2294	651.6586	648.3108	0.326	0.807
P-2958	8.7309	4.9407	18	7.9247	46	17	5.2408	46	18	0.9077	648.3108	646.5802	0.807	0.727
P-197	4.9604	4.0421	15	3.8984	46	26	4.1727	46	26	0.7859	649.9566	648.8995	0.723	0.624
P-274	0.8077	2.3116	8.004	0.2716	46	15	2.0438	46	16	0.3363	668.6888	667.9172	0.403	0.428
P-2917	1.6007	2.9584	9.96	0	0	0	0	0	0	0	654.5092	654.5092	0	0
P-198	3.6852	6.811	9.96	0.205	46	15	3.5686	46	15	0.0556	657.8055	655.1129	0.163	0.16
P-1000	3.0205	5.5424	9.996	-0.7592	44	37	4.0338	47	46	-0.2514	648.3108	648.32	1.057	1.609
FREE	#	1	Undefnd	Undefnd	Undefn	11.9774	46	17						
FREE	#	2	Undefnd	Undefnd	Undefn	7.9247	46	17						

Table 7
50-Year Recurrence Interval Event - Modeling Results - Conveyance Design Conditions
Pipe Summary - North Basin

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-1002	688.01	679.257	678.59	0	0	0	9.42	12.566	0	0	0
MH-1003	680.47	670.887	670.4422	46	16	0	10.0278	12.566	0	0	0
MH-1004	686.45	679.867	679.3379	46	15	0	7.1121	12.566	0	0	0
MH-16339	678.6	678.087	677.5717	46	16	0	1.0283	12.566	0	0	0
MH-16365	694.8	686.137	685.8163	46	20	0	8.9837	12.566	0	0	0
MH-16366	692.73	685.257	683.36	46	18	0	9.37	12.566	0	0	0
MH-16369	677.35	667.487	661.0671	46	21	0	16.2829	12.566	0	0	0
MH-1822	687.46	675.707	675.2265	46	16	0	12.2335	12.566	0	0	0
MH-1823	692.89	682.807	682.3042	46	16	0	10.5858	12.566	0	0	0
MH-1824	700.02	689.907	689.4064	46	15	0	10.6136	12.566	0	0	0
MH-1885	694.17	687.007	686.672	46	18	0	7.498	12.566	0	0	0
MH-1886	697.35	688.597	688.1297	46	16	0	9.2203	12.566	0	0	0
MH-1888	698.76	690.177	689.7124	46	15	0	9.0476	12.566	0	0	0
MH-1891	682.47	674.387	673.0145	46	17	0	9.4555	12.566	0	0	0
MH-1893	690.94	681.187	680.6967	46	17	0	10.2433	12.566	0	0	0
MH-1895	696.5	684.587	684.1468	46	15	0	12.3532	12.566	0	0	0
MH-3088	698.25	689.087	688.5766	46	17	0	9.6734	12.566	0	0	0
MH-3089	700.35	690.187	689.7451	46	16	0	10.6049	12.566	0	0	0
MH-3090	699.25	690.917	690.4206	46	15	0	8.8294	12.566	0	0	0
MH-320	660.66	644.41	644.2413	46	17	0	16.4187	12.566	0	0	0
MH-343	660.87	647.813	648.6759	46	17	0.8629	12.1941	12.566	0	0	0
MH-354	660.62	650.303	650.0165	46	25	0	10.6035	12.566	0	0	0
MH-355	666.12	652.522	651.9483	46	24	0	14.1717	12.566	0	0	0
MH-356	670.73	659.087	654.5461	46	23	0	16.1839	12.566	0	0	0
MH-357	662.42	655.81	651.7494	46	16	0	10.6706	12.566	0	0	0
MH-358	666.59	658.5	657.8115	46	15	0	8.7785	12.566	0	0	0
MH-374	666.5	657.5	656.1399	46	22	0	10.3601	12.566	0	0	0
MH-375	664.75	657.12	656.5645	46	17	0	8.1855	12.566	0	0	0
MH-396	668.15	656.737	656.3397	46	20	0	11.8103	12.566	0	0	0
MH-4199	692.91	676.41	676.0121	46	15	0	16.8979	12.566	0	0	0
MH-466	675.12	663.207	662.6813	46	16	0	12.4387	12.566	0	0	0
MH-467	681.52	672.087	669.1631	46	15	0	12.3569	12.566	0	0	0
MH-468	689.87	679.287	678.7772	46	15	0	11.0928	12.566	0	0	0
MH-470	672.35	661.017	660.55	46	17	0	11.8	12.566	0	0	0
MH-471	681.46	670.297	669.7674	46	15	0	11.6926	12.566	0	0	0
MH-472	682.45	673.287	672.7774	46	15	0	9.6726	12.566	0	0	0
MH-5152	670.49	659.066	658.3548	46	22	0	12.1352	12.566	0	0	0
MH-5174	665.92	655.77	655.5082	46	23	0	10.4118	12.566	0	0	0
MH-5568	658.82	646.99	646.6631	46	17	0	12.1569	12.566	0	0	0
MH-5571	661.85	648.81	648.6788	46	17	0	13.1712	12.566	0	0	0
MH-5572	665.87	652.87	651.7743	46	16	0	14.0957	12.566	0	0	0
MH-5574	665.94	653.05	652.5922	46	16	0	13.3478	12.566	0	0	0
MH-5724	677.33	667.75	667.046	46	20	0	10.284	12.566	0	0	0
MH-6069	660.42	645.72	646.7038	46	17	0.9838	13.7162	12.566	0	0	0
MH-6075	681.16	666.16	665.6249	45	37	0	15.5351	12.566	0	0	0
MH-6090	662.05	649.4	649.0135	46	19	0	13.0365	12.566	0	0	0
MH-6092	682.68	670.347	669.787	46	15	0	12.893	12.566	0	0	0
MH-6168	663.92	650.467	650.0564	46	16	0	13.8636	12.566	0	0	0
MH-669	681.05	670.713	670.4404	46	19	0	10.6096	12.566	0	0	0
MH-670	689.72	671.887	670.8626	46	17	0	18.8574	12.566	0	0	0
MH-671	696.64	672.887	672.4165	46	15	0	24.2235	12.566	0	0	0
MH-672	678.61	668.443	668.5083	46	20	0.0653	10.1017	12.566	0	0	0
MH-673	683.22	674.887	674.3512	46	16	0	8.8688	12.566	0	0	0
MH-674	690.96	681.627	681.0927	46	15	0	9.8673	12.566	0	0	0
MH-871	679.09	670.11	669.6194	46	16	0	9.4706	12.566	0	0	0
MH-877	685.75	674.587	674.0985	46	15	0	11.6515	12.566	0	0	0
MH-879	676.54	666.62	666.1011	46	21	0	10.4389	12.566	0	0	0
MH-884	681.49	672.087	664.7187	46	21	0	16.7713	12.566	0	0	0
MH-886	687.77	677.107	676.5865	46	16	0	11.1835	12.566	0	0	0
MH-887	688.81	682.057	681.5353	46	15	0	7.2747	12.566	0	0	0
MH-937	680.8	672.227	672.0887	46	18	0	8.7113	12.566	0	0	0
MH-938	682.09	674.177	673.8659	46	19	0	8.2241	12.566	0	0	0
MH-940	695.96	688.957	688.354	46	15	0	7.606	12.566	0	0	0
MH-943	682.72	674.344	673.8627	46	16	0	8.8573	12.566	0	0	0
MH-944	686.14	678.35	677.8719	46	15	0	8.2681	12.566	0	0	0
MH-946	691.27	682.357	681.8777	46	15	0	9.3923	12.566	0	0	0
MH-961	679.46	668.457	667.9509	46	16	0	11.5091	12.566	0	0	0
MH-962	689.04	680.457	679.8924	46	15	0	9.1476	12.566	0	0	0
MH-968	681.12	668.299	667.9325	46	17	0	13.1875	12.566	0	0	0
MH-969	680.17	669.087	668.7029	46	15	0	11.4671	12.566	0	0	0
MH-976	678.37	669.087	663.5944	46	18	0	14.7756	12.566	0	0	0
MH-983	680.15	663.6	662.9506	46	22	0	17.1994	12.566	0	0	0
MH-986	678.74	666.05	665.5923	46	22	0	13.1477	12.566	0	0	0
MH-991	681.04	671.747	670.7634	46	16	0	10.2766	12.566	0	0	0
MH-993	688.87	681.957	681.4664	46	15	0	7.4036	12.566	0	0	0

Table 7
50-Year Recurrence Interval Event - Modeling Results - Conveyance Design Conditions
Pipe Summary - North Basin

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends Upstream (ft)	Maximum Water Elevation at Pipe Ends Downstream (ft)	Ratio d/D US	Ratio d/D DS
P-485	2.4042	6.8805	8.004	0.3209	46	15	4.7193	46	16	0.1335	689.4064	682.3042	0.249	0.246
P-486	2.4128	6.9053	8.004	0.3206	46	16	4.703	46	15	0.1329	682.3042	675.2265	0.246	0.28
P-487	1.8758	5.3683	8.004	0.3203	46	16	3.1039	46	16	0.1708	675.2265	670.4404	0.28	0.84
P-671	2.2315	4.0946	9.996	1.6391	46	20	4.0841	45	48	0.7345	670.4404	668.5083	0.673	1.078
P-2983	2.1464	3.9385	9.996	2.214	46	20	4.1811	47	9	1.0315	668.5083	667.046	1.078	0.655
P-2985	6.3467	5.1718	15	2.214	46	21	4.1146	46	21	0.3488	667.046	666.1011	0.437	0.585
P-2981	4.6567	3.7946	15	2.6717	46	21	3.5482	46	21	0.5737	666.1011	665.5923	0.585	0.634
P-2979	4.6542	3.7926	15	2.6714	46	22	3.3768	46	22	0.574	665.5923	664.7187	0.634	0.447
P-521	8.2312	6.7074	15	3.1456	46	21	5.869	46	22	0.3822	664.7187	662.9506	0.447	0.48
P-522	8.2318	6.7078	15	3.1454	46	22	5.4573	46	22	0.3821	662.9506	661.0671	0.48	0.438
P-2909	10.2706	8.3693	15	3.7192	46	21	7.2161	46	22	0.3621	661.0671	658.3548	0.438	0.431
P-2910	10.2705	8.3691	15	3.7192	46	22	11.2026	0	1	0.3621	658.3548	656.1399	0.431	0.776
P-2915	4.77	3.887	15	4.0371	46	22	3.9457	46	23	0.8464	656.1399	655.5082	0.776	0.791
P-2916	4.7714	3.8881	15	4.037	46	23	4.0214	46	24	0.8461	655.5082	654.5461	0.791	0.541
P-195	8.01	6.5271	15	4.2815	46	23	6.3198	46	24	0.5345	654.5461	651.9483	0.541	0.541
P-196	8.0114	6.5283	15	4.2813	46	24	6.0183	46	23	0.5344	651.9483	650.0165	0.541	0.771
P-506	1.43	4.0926	8.004	0.3055	46	15	3.0026	46	16	0.2136	684.1468	680.6967	0.34	0.265
P-507	2.0242	5.793	8.004	0.3049	46	17	4.1154	46	17	0.1506	680.6967	673.8945	0.265	0.262
P-501	1.3361	3.8238	8.004	0.2597	46	15	2.9026	46	16	0.1943	689.7124	688.1297	0.303	0.299
P-502	1.3293	3.8045	8.004	0.2594	46	16	2.6867	46	16	0.1951	688.1297	686.672	0.299	0.498
P-503	0.9141	2.6162	8.004	0.4414	46	18	2.5278	46	18	0.4829	686.672	685.8163	0.498	0.519
P-504	0.9016	2.5802	8.004	0.4408	46	20	2.4378	46	20	0.4889	685.8163	684.8996	0.519	0.464
P-899	1.2808	3.6656	8.004	0.1833	46	15	2.4798	46	15	0.1431	690.4206	689.7451	0.256	0.337
P-901	0.9056	2.5917	8.004	0.183	46	16	1.8368	46	17	0.2021	689.7451	688.5766	0.337	0.235
P-904	1.5122	4.3279	8.004	0.1828	46	17	3.1206	0	4	0.1209	688.5766	686.672	0.235	0.498
P-265	3.167	9.0637	8.004	0.0612	46	15	2.4476	46	15	0.0193	688.354	683.36	0.096	0.315
P-266	3.1056	8.8879	8.004	0.6675	46	18	6.4286	46	18	0.2149	683.36	673.8659	0.315	0.534
P-505	1.2636	3.6163	8.004	0.6674	46	19	3.3334	46	21	0.5282	673.8659	673.0145	0.534	0.789
P-267	1.2628	3.6141	8.004	1.1388	46	18	3.8493	46	17	0.9018	673.0145	672.0887	0.789	0.793
P-268	1.2635	3.6161	8.004	1.1386	46	19	3.8135	46	19	0.9011	672.0887	670.4404	0.793	0.84
P-261	0.9951	2.848	8.004	0.183	46	16	2.1312	46	16	0.1839	672.4165	671.4135	0.295	0.29
P-262	0.7876	2.254	8.004	0.1826	46	17	1.4287	45	47	0.2318	670.8626	670.4404	0.334	1.08
P-269	2.1639	6.1929	8.004	0.3669	46	15	4.5461	46	15	0.1696	681.8777	677.8719	0.281	0.283
P-270	2.1636	6.1921	8.004	0.3668	46	15	4.5194	46	16	0.1695	677.8719	673.8627	0.283	0.278
P-271	2.1638	6.1925	8.004	0.3666	46	16	3.44	46	16	0.1694	673.8627	668.5083	0.278	1.347
P-263	2.5185	7.2078	8.004	0.2139	46	15	4.3421	46	16	0.0849	681.0927	674.3512	0.199	0.197
P-264	2.5251	7.2266	8.004	0.2137	46	16	2.7145	46	16	0.0846	674.3512	668.5083	0.197	1.347
P-272	3.2315	9.2483	8.004	0.1654	46	15	4.4461	46	15	0.0512	679.8924	667.9509	0.154	0.241
P-273	1.2929	3.7002	8.004	0.1651	46	16	2.3297	44	44	0.1277	667.9509	666.1011	0.241	0.422
P-259	1.941	5.5551	8.004	0.2976	46	15	3.9627	46	16	0.1533	674.0985	669.6194	0.268	0.264
P-260	1.9413	5.5558	8.004	0.2973	46	16	3.7603	44	45	0.1532	669.6194	666.1011	0.264	0.422
P-278	1.8801	5.3806	8.004	0.2808	46	15	3.802	46	15	0.1493	681.4664	677.5938	0.264	0.261
P-277	2.4706	7.0705	8.004	0.2807	46	16	4.639	46	15	0.1136	677.5717	670.7634	0.228	0.245
P-283	2.1307	6.0978	8.004	0.2805	46	16	3.0841	46	16	0.1316	670.7634	664.7187	0.245	0.838
P-284	2.9795	8.5271	8.004	0	0	0	0	0	0	0	670.7634	670.7634	0	0
P-257	1.9186	5.4908	8.004	0.1982	46	15	3.5171	46	15	0.1033	681.5353	676.5865	0.218	0.22
P-258	1.9321	5.5295	8.004	0.1978	46	16	3.484	46	17	0.1024	676.5865	671.5636	0.22	0.215
P-308	3.0003	8.5867	8.004	0.281	46	15	4.9164	46	15	0.0937	679.3379	670.4422	0.207	0.333
P-311	1.201	3.4372	8.004	0.2803	46	16	2.7552	46	17	0.2334	670.4422	668.639	0.333	0.328
P-276	1.202	3.4401	8.004	0.28	46	18	2.7185	46	18	0.2329	663.5944	661.6388	0.336	0.328
P-275	0.8076	2.3113	8.004	0.2963	46	18	1.9819	46	18	0.3669	667.9325	667.0715	0.451	0.377
P-208	2.2051	6.3109	8.004	0.2641	46	15	4.2082	46	15	0.1198	678.7772	671.5756	0.236	0.233
P-207	2.6764	7.6596	8.004	0.2641	46	16	4.8046	46	16	0.0987	669.1631	662.6813	0.215	0.212
P-205	2.6816	7.6744	8.004	0.264	46	16	16.5301	0	2	0.0985	662.6813	656.3397	0.212	0.404
P-204	0.9306	2.6633	8.004	0.2629	46	18	1.883	42	35	0.2825	656.3397	656.1399	0.404	0.959
P-199	0.9548	2.7327	8.004	0.0577	46	15	1.4978	46	16	0.0604	657.8115	656.5645	0.167	0.167
P-202	0.9429	2.6985	8.004	0.0575	46	17	1.045	42	29	0.0609	656.5645	656.1399	0.167	0.959
P-211	2.2668	6.4873	8.004	0.2479	46	15	4.0049	46	15	0.1093	672.7774	669.7674	0.236	0.206
P-209	2.6625	7.62	8.004	0.2477	46	15	4.4585	46	15	0.093	669.7674	660.55	0.206	0.3
P-210	1.3029	3.7288	8.004	0.2472	46	17	2.8969	0	2	0.1897	660.55	658.6165	0.3	0.295
P-3077	21.7997	12.3361	18	17.0925	46	15	12.606	45	37	0.7841	676.0121	665.6249	0.735	0.643
P-3073	26.1881	14.8194	18	17.097	46	15	14.262	46	16	0.6529	665.6249	652.5922	0.643	0.695
P-3067	15.7527	8.9142	18	12.4772	45	15	7.8146	42	28	0.7921	652.5922	648.6759	1.821	2.757
P-3069	5.5605	3.1466	18	12.4878	46	17	6.9933	46	17	2.2458	648.6759	646.7038	2.757	1.656
P-3070	11.0648	6.2614	18	12.4879	46	17	7.0842	46	17	1.1286	646.7038	644.2413	1.656	0.888
P-3088	3.55	10.1599	8.004	0.1983	46	15	4.4527	46	15	0.0558	669.787	651.7494	0.16	0.374
P-3092	1.4511	4.1529	8.004	0.4211	46	16	3.5174	46	16	0.2902	651.7494	650.0564	0.374	0.384
P-3093	1.443	4.1297	8.004	0.4211	46	16	2.8933	45	46	0.2919	650.0564	649.0135	0.384	1.34
P-17061	13.1123	10.6849	15	4.6981	46	24	5.6965	47	11	0.3583	649.0135	648.6788	0.691	0.895
P-2956	9.9182	5.6125	18	4.8087	46	16	3.8003	46	16	0.4848	652.5922	652.1066	0.695	0.491
P-2957	14.0776	7.9663	18	4.8063	46	16	6.1549	46	16	0.3414	651.7743	648.6788	0.403	1.053
P-2958	8.7309	4.9407	18	9.2182	46	17	5.3027	47	3	1.0558	648.6788	646.6631	1.053	0.782
P-197	4.9604	4.0421	15	4.2803	46	25	4.253	46	26	0.8629	650.0165	649.0135	0.771	0.715
P-274	0.8077	2.3116	8.004	0.2973	46	15	2.091	46	15	0.3681	668.7029	667.9325	0.424	0.451
P-2917	1.6007	2.9584	9.96	0	0	0	0	0	0	0	654.5461	654.5461	0	0
P-198	3.6852	6.811	9.96	0.2232	46	15	3.6461	46	15	0.0606	657.8115	655.118	0.171	0.166
P-1000	3.0205	5.5424	9.996	-0.7666	42	56	4.0021	48	5	-0.2538	648.6788	648.6759	1.499	2.036
FREE	#	1	Undefnd	Undefnd	Undefn	12.4879	46	17						
FREE	#	2	Undefnd	Undefnd	Undefn	9.2182	46	17						

Table 8
100-Year Recurrence Interval Event - Modeling Results - Conveyance Design Conditions
Manhole Summary - North Basin

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-1002	688.01	679.257	678.59	0	0	0	9.42	12.566	0	0	0
MH-1003	680.47	670.887	670.4523	46	16	0	10.0177	12.566	0	0	0
MH-1004	686.45	679.867	679.3436	46	15	0	7.1064	12.566	0	0	0
MH-16339	678.6	678.087	677.5782	46	15	0	1.0218	12.566	0	0	0
MH-16365	694.8	686.137	685.8355	46	20	0	8.9645	12.566	0	0	0
MH-16366	692.73	685.257	683.3696	46	18	0	9.3604	12.566	0	0	0
MH-16369	677.35	667.487	661.0931	46	21	0	16.2569	12.566	0	0	0
MH-1822	687.46	675.707	675.2349	46	16	0	12.2251	12.566	0	0	0
MH-1823	692.89	682.807	682.3114	46	16	0	10.5786	12.566	0	0	0
MH-1824	700.02	689.907	689.4138	46	15	0	10.6062	12.566	0	0	0
MH-1885	694.17	687.007	686.6897	46	18	0	7.4803	12.566	0	0	0
MH-1886	697.35	688.597	688.1388	46	16	0	9.2112	12.566	0	0	0
MH-1888	698.76	690.177	689.7219	46	15	0	9.0381	12.566	0	0	0
MH-1891	682.47	674.387	673.0715	46	18	0	9.3985	12.566	0	0	0
MH-1893	690.94	681.187	680.7047	46	17	0	10.2353	12.566	0	0	0
MH-1895	696.5	684.587	684.1574	46	15	0	12.3426	12.566	0	0	0
MH-3088	698.25	689.087	688.5835	46	17	0	9.6665	12.566	0	0	0
MH-3089	700.35	690.187	689.7555	46	16	0	10.5945	12.566	0	0	0
MH-3090	699.25	690.917	690.4286	46	15	0	8.8214	12.566	0	0	0
MH-320	660.66	644.41	644.2633	46	18	0	16.3967	12.566	0	0	0
MH-343	660.87	647.813	649.1558	46	18	1.3428	11.7142	12.566	0	0	0
MH-354	660.62	650.303	650.1582	46	20	0	10.4618	12.566	0	0	0
MH-355	666.12	652.522	651.9953	46	22	0	14.1247	12.566	0	0	0
MH-356	670.73	659.087	654.5834	46	23	0	16.1466	12.566	0	0	0
MH-357	662.42	655.81	651.7597	46	15	0	10.6603	12.566	0	0	0
MH-358	666.59	658.5	657.8172	46	15	0	8.7728	12.566	0	0	0
MH-374	666.5	657.5	656.2256	46	22	0	10.2744	12.566	0	0	0
MH-375	664.75	657.12	656.5703	46	17	0	8.1797	12.566	0	0	0
MH-396	668.15	656.737	656.3786	46	21	0	11.7714	12.566	0	0	0
MH-4199	692.91	676.41	676.1015	46	15	0	16.8085	12.566	0	0	0
MH-466	675.12	663.207	662.6872	46	16	0	12.4328	12.566	0	0	0
MH-467	681.52	672.087	669.1692	46	15	0	12.3508	12.566	0	0	0
MH-468	689.87	679.287	678.7838	46	15	0	11.0862	12.566	0	0	0
MH-470	672.35	661.017	660.5589	46	17	0	11.7911	12.566	0	0	0
MH-471	681.46	670.297	669.7731	46	15	0	11.6869	12.566	0	0	0
MH-472	682.45	673.287	672.7843	46	15	0	9.6657	12.566	0	0	0
MH-5152	670.49	659.066	658.3876	46	21	0	12.1024	12.566	0	0	0
MH-5174	665.92	655.77	655.5779	46	23	0	10.3421	12.566	0	0	0
MH-5568	658.82	646.99	646.725	46	18	0	12.095	12.566	0	0	0
MH-5571	661.85	649.06	649.2337	46	18	0.1737	12.6163	12.566	0	0	0
MH-5572	665.87	652.87	651.962	46	16	0	13.908	12.566	0	0	0
MH-5574	665.94	653.05	652.8295	46	16	0	13.1105	12.566	0	0	0
MH-5724	677.33	667.75	667.076	46	20	0	10.254	12.566	0	0	0
MH-6069	660.42	645.72	646.9756	46	18	1.2556	13.4444	12.566	0	0	0
MH-6075	681.16	666.16	665.6521	46	15	0	15.5079	12.566	0	0	0
MH-6090	662.05	649.65	649.3204	46	18	0	12.7296	12.566	0	0	0
MH-6092	682.68	670.347	669.7913	46	15	0	12.8887	12.566	0	0	0
MH-6168	663.92	650.467	650.0826	46	18	0	13.8374	12.566	0	0	0
MH-669	681.05	670.713	670.4708	46	19	0	10.5792	12.566	0	0	0
MH-670	689.72	671.887	670.8783	46	17	0	18.8417	12.566	0	0	0
MH-671	696.64	672.887	672.4256	46	15	0	24.2144	12.566	0	0	0
MH-672	678.61	668.61	668.2692	46	19	0	10.3408	12.566	0	0	0
MH-673	683.22	674.887	674.3569	46	15	0	8.8631	12.566	0	0	0
MH-674	690.96	681.627	681.0984	46	15	0	9.8616	12.566	0	0	0
MH-871	679.09	670.11	669.6271	46	16	0	9.4629	12.566	0	0	0
MH-877	685.75	674.587	674.1063	46	15	0	11.6437	12.566	0	0	0
MH-879	676.54	666.62	666.1468	46	20	0	10.3932	12.566	0	0	0
MH-884	681.49	672.087	664.7479	46	21	0	16.7421	12.566	0	0	0
MH-886	687.77	677.107	676.5928	46	16	0	11.1772	12.566	0	0	0
MH-887	688.81	682.057	681.5415	46	15	0	7.2685	12.566	0	0	0
MH-937	680.8	672.227	672.1479	46	19	0	8.6521	12.566	0	0	0
MH-938	682.09	674.177	673.8882	46	19	0	8.2018	12.566	0	0	0
MH-940	695.96	688.957	688.3566	46	15	0	7.6034	12.566	0	0	0
MH-943	682.72	674.344	673.8711	46	16	0	8.8489	12.566	0	0	0
MH-944	686.14	678.35	677.8805	46	15	0	8.2595	12.566	0	0	0
MH-946	691.27	682.357	681.8862	46	15	0	9.3838	12.566	0	0	0
MH-961	679.46	668.457	667.9578	46	16	0	11.5022	12.566	0	0	0
MH-962	689.04	680.457	679.8968	46	15	0	9.1432	12.566	0	0	0
MH-968	681.12	668.299	667.9473	46	17	0	13.1727	12.566	0	0	0
MH-969	680.17	669.087	668.7165	46	15	0	11.4535	12.566	0	0	0
MH-976	678.37	669.087	663.6048	46	17	0	14.7652	12.566	0	0	0
MH-983	680.15	663.6	662.9849	46	21	0	17.1651	12.566	0	0	0
MH-986	678.74	666.05	665.6381	46	21	0	13.1019	12.566	0	0	0
MH-991	681.04	671.747	670.7704	46	16	0	10.2696	12.566	0	0	0
MH-993	688.87	681.957	681.474	46	15	0	7.396	12.566	0	0	0

Table 8
100-Year Recurrence Interval Event - Modeling Results - Conveyance Design Conditions
Manhole Summary - North Basin

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends Upstream (ft)	Maximum Water Elevation at Pipe Ends Downstream (ft)	Ratio d/D US	Ratio d/D DS
P-485	2.4042	6.8805	8.004	0.3497	46	15	4.8332	46	16	0.1454	689.4138	682.3114	0.261	0.257
P-486	2.4128	6.9053	8.004	0.3494	46	16	4.8188	46	15	0.1448	682.3114	675.2349	0.257	0.292
P-487	1.8758	5.3683	8.004	0.3491	46	16	3.1964	46	16	0.1861	675.2349	670.4708	0.292	0.886
P-671	2.2315	4.0946	9.996	1.7859	46	20	4.2711	46	21	0.8003	670.4708	668.2692	0.709	0.791
P-2983	3.494	4.4487	12	2.4139	46	19	4.4625	46	20	0.6909	668.2692	667.076	0.659	0.576
P-2985	6.3467	5.1718	15	2.4138	46	20	4.1812	46	20	0.3803	667.076	666.1468	0.461	0.621
P-2981	4.6567	3.7946	15	2.9116	46	20	3.6013	46	20	0.6253	666.1468	665.6381	0.621	0.67
P-2979	4.6542	3.7926	15	2.9113	46	21	3.4505	46	21	0.6255	665.6381	664.7479	0.67	0.47
P-521	8.2312	6.7074	15	3.4271	46	21	5.9801	46	21	0.4164	664.7479	662.9849	0.47	0.508
P-522	8.2318	6.7078	15	3.4269	46	21	5.5431	46	21	0.4163	662.9849	661.0931	0.508	0.458
P-2909	10.2706	8.3693	15	4.0509	46	21	7.3848	46	22	0.3944	661.0931	658.3876	0.458	0.457
P-2910	10.2705	8.3691	15	4.0508	46	21	11.2026	0	1	0.3944	658.3876	656.2256	0.457	0.844
P-2915	4.77	3.887	15	4.3964	46	22	3.9771	46	21	0.9217	656.2256	655.5779	0.844	0.846
P-2916	4.7714	3.8881	15	4.3962	46	23	4.113	46	24	0.9214	655.5779	654.5834	0.846	0.571
P-195	8.01	6.5271	15	4.6617	46	23	6.4312	46	24	0.582	654.5834	651.9953	0.571	0.579
P-196	8.0114	6.5283	15	4.6635	46	24	6.0638	46	1	0.5821	651.9953	650.1582	0.579	0.884
P-506	1.43	4.0926	8.004	0.3329	46	15	3.0758	46	16	0.2328	684.1574	680.7047	0.356	0.277
P-507	2.0242	5.793	8.004	0.3323	46	17	4.2199	46	17	0.1642	680.7047	673.9026	0.277	0.274
P-501	1.3361	3.8238	8.004	0.283	46	15	2.9721	46	16	0.2118	689.7219	688.1388	0.318	0.313
P-502	1.3293	3.8045	8.004	0.2827	46	16	2.7512	46	16	0.2127	688.1388	686.6897	0.313	0.524
P-503	0.9141	2.6162	8.004	0.4811	46	18	2.5787	46	18	0.5263	686.6897	685.8355	0.524	0.548
P-504	0.9016	2.5802	8.004	0.4804	46	20	2.486	46	20	0.5328	685.8355	684.914	0.548	0.486
P-899	1.2808	3.6656	8.004	0.1998	46	15	2.536	46	15	0.156	690.4286	689.7555	0.268	0.353
P-901	0.9056	2.5917	8.004	0.1994	46	16	1.8825	46	17	0.2202	689.7555	688.5835	0.353	0.245
P-904	1.5122	4.3279	8.004	0.1992	46	17	3.1206	0	4	0.1318	688.5835	686.6897	0.245	0.524
P-265	3.167	9.0637	8.004	0.0667	46	15	2.51	46	15	0.0211	688.3566	683.3696	0.1	0.329
P-266	3.1056	8.8879	8.004	0.7274	46	18	6.5693	46	18	0.2342	683.3696	673.8882	0.329	0.567
P-505	1.2636	3.6163	8.004	0.7274	46	19	3.363	46	23	0.5756	673.8882	673.0715	0.567	0.875
P-267	1.2628	3.6141	8.004	1.2407	46	18	3.8522	45	37	0.9825	673.0715	672.1479	0.875	0.881
P-268	1.2635	3.6161	8.004	1.2402	46	19	3.8224	47	6	0.9815	672.1479	670.4708	0.881	0.886
P-261	0.9951	2.848	8.004	0.1994	46	16	2.1818	46	16	0.2004	672.4256	671.4222	0.308	0.303
P-262	0.7876	2.254	8.004	0.199	46	17	1.4475	46	16	0.2526	670.8783	670.4708	0.357	1.126
P-269	2.1639	6.1929	8.004	0.3998	46	15	4.6528	46	15	0.1848	681.8862	677.8805	0.294	0.296
P-270	2.1636	6.1921	8.004	0.3997	46	15	4.6245	46	16	0.1847	677.8805	673.8711	0.296	0.291
P-271	2.1638	6.1925	8.004	0.3994	46	16	3.602	46	16	0.1846	673.8711	668.2692	0.291	0.988
P-263	2.5185	7.2078	8.004	0.2331	46	15	4.4487	46	16	0.0926	681.0984	674.3569	0.208	0.205
P-264	2.5251	7.2266	8.004	0.2329	46	16	2.8672	46	15	0.0922	674.3569	668.2692	0.205	0.988
P-272	3.2315	9.2483	8.004	0.1797	46	15	4.5608	46	15	0.0556	679.8968	667.9578	0.16	0.252
P-273	1.2929	3.7002	8.004	0.1793	46	16	2.3226	44	43	0.1387	667.9578	666.1468	0.252	0.49
P-259	1.941	5.5551	8.004	0.3233	46	15	4.0575	46	16	0.1666	674.1063	669.6271	0.279	0.276
P-260	1.9413	5.5558	8.004	0.3231	46	16	3.7515	44	44	0.1664	669.6271	666.1468	0.276	0.49
P-278	1.8801	5.3806	8.004	0.3051	46	15	3.8941	46	15	0.1623	681.474	677.6014	0.276	0.272
P-277	2.4706	7.0705	8.004	0.305	46	16	4.7552	46	16	0.1235	677.5782	670.7704	0.237	0.255
P-283	2.1307	6.0978	8.004	0.3048	46	16	3.1754	46	16	0.1431	670.7704	664.7479	0.255	0.881
P-284	2.9795	8.5271	8.004	0	0	0	0	0	0	0	670.7704	670.7704	0	0
P-257	1.9186	5.4908	8.004	0.2154	46	15	3.6027	46	15	0.1123	681.5415	676.5928	0.227	0.229
P-258	1.9321	5.5295	8.004	0.215	46	16	3.5673	46	17	0.1113	676.5928	671.5697	0.229	0.224
P-308	3.0003	8.5867	8.004	0.3053	46	15	5.0335	46	15	0.1018	679.3436	670.4523	0.215	0.348
P-311	1.201	3.4372	8.004	0.3046	46	16	2.8175	46	17	0.2536	670.4523	668.6487	0.348	0.343
P-276	1.202	3.4401	8.004	0.3043	46	18	2.7784	46	18	0.2531	663.6048	661.6485	0.352	0.343
P-275	0.8076	2.3113	8.004	0.322	46	18	2.0236	46	18	0.3987	667.9473	667.0828	0.473	0.394
P-208	2.2051	6.3109	8.004	0.287	46	15	4.3106	46	15	0.1301	678.7838	671.5824	0.246	0.243
P-207	2.6764	7.6596	8.004	0.287	46	16	4.919	46	16	0.1072	669.1692	662.6872	0.224	0.221
P-205	2.6816	7.6744	8.004	0.2869	46	16	16.5301	0	2	0.107	662.6872	656.3786	0.221	0.463
P-204	0.9306	2.6633	8.004	0.2851	46	17	1.9109	42	34	0.3063	656.3786	656.2256	0.463	1.088
P-199	0.9548	2.7327	8.004	0.0639	46	15	1.5427	46	16	0.067	657.8172	656.5703	0.176	0.176
P-202	0.9429	2.6985	8.004	0.0637	46	17	1.0551	42	28	0.0675	656.5703	656.2256	0.176	1.088
P-211	2.2668	6.4873	8.004	0.2693	46	15	4.0978	46	15	0.1188	672.7843	669.7731	0.246	0.215
P-209	2.6625	7.62	8.004	0.2691	46	15	4.5653	46	15	0.1011	669.7731	660.5589	0.215	0.313
P-210	1.3029	3.7288	8.004	0.2686	46	17	2.8969	0	2	0.2061	660.5589	658.6252	0.313	0.308
P-3077	21.7997	12.3361	18	18.496	46	15	12.6166	45	12	0.8484	676.1015	665.6521	0.794	0.661
P-3073	26.1881	14.8194	18	18.4956	46	15	14.4956	46	16	0.7063	665.6521	652.8295	0.661	0.853
P-3067	15.7527	8.9142	18	12.5143	45	14	7.8158	42	27	0.7944	652.8295	649.1558	1.98	3.077
P-3069	5.5605	3.1466	18	13.1506	46	18	7.3503	46	18	2.365	649.1558	646.9756	3.077	1.837
P-3070	11.0648	6.2614	18	13.1506	46	18	7.444	46	18	1.1885	646.9756	644.2633	1.837	0.902
P-3088	3.55	10.1599	8.004	0.2154	46	15	4.5649	46	15	0.0607	669.7913	651.7597	0.167	0.389
P-3092	1.4511	4.1529	8.004	0.4565	46	16	3.5853	46	16	0.3146	651.7597	650.0826	0.389	0.424
P-3093	1.443	4.1297	8.004	0.455	46	18	2.9425	45	42	0.3153	650.0826	649.3204	0.424	1.8
P-17061	21.3221	12.0659	18	5.1624	46	24	5.6684	47	19	0.2421	649.3204	649.2337	0.78	1.116
P-2956	9.9182	5.6125	18	6.5741	46	16	4.2306	46	16	0.6628	652.8295	652.2624	0.853	0.595
P-2957	14.0776	7.9663	18	6.5708	46	16	6.3848	46	16	0.4668	651.962	649.2337	0.528	1.422
P-2958	8.7309	4.9407	18	10.3222	46	18	5.8974	46	18	1.1823	649.2337	646.725	1.422	0.823
P-197	4.9604	4.0421	15	4.6859	46	24	4.2951	47	4	0.9447	650.1582	649.3204	0.884	0.96
P-274	0.8077	2.3116	8.004	0.3231	46	15	2.1354	46	15	0.4	668.7165	667.9473	0.445	0.473
P-2917	1.6007	2.9584	9.96	0	0	0	0	0	0	0	654.5834	654.5834	0	0
P-198	3.6852	6.811	9.96	0.2412	46	15	3.7224	46	15	0.0655	657.8172	655.1231	0.177	0.172
P-1000	3.0205	5.5424	9.996	1.2715	46	19	4.1367	48	10	0.421	649.2337	649.1558	2.165	2.612
FREE	#	1	Undefnd	Undefnd	Undefn	13.1506	46	18						
FREE	#	2	Undefnd	Undefnd	Undefn	10.3222	46	18						

Table 9
6-Month Recurrence Interval Event - Modeling Results - Conveyance Design (Same as Existing Conditions for 6-Month RI)
Pipe Summary - South Basin

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-993	689	682.09	681.5618	46	15	0	7.4382	12.566	0	0	0
MH-999	683.01	674.01	672.7141	46	21	0	10.2959	12.566	0	0	0
MH-1001	685.92	679.09	678.5238	46	16	0	7.3962	12.566	0	0	0
MH-2496	685.3	676.26	675.3937	46	21	0	9.9063	12.566	0	0	0
MH-2497	687.62	677.79	677.316	46	18	0	10.304	12.566	0	0	0
MH-2499	690.87	679.29	678.8186	46	16	0	12.0514	12.566	0	0	0
MH-2507	691.29	680.46	679.9894	46	15	0	11.3006	12.566	0	0	0
MH-2592	687.8	676.5533	676.2028	46	21	0	11.5972	12.566	0	0	0
MH-2594	691.34	678.34	677.1427	46	20	0	14.1973	12.566	0	0	0
MH-2598	693.94	680.53	680.0321	46	17	0	13.9079	12.566	0	0	0
MH-2599	692.41	682.41	681.9225	46	16	0	10.4875	12.566	0	0	0
MH-2610	692.87	684.29	683.7992	46	15	0	9.0708	12.566	0	0	0
MH-2630	694	678.4533	677.9694	46	20	0	16.0306	12.566	0	0	0
MH-2631	697.74	686.59	678.8484	46	19	0	18.8916	12.566	0	0	0
MH-2645	683.5	674.7533	674.3704	46	21	0	9.1296	12.566	0	0	0
MH-2707	696.91	687.91	687.413	46	17	0	9.497	12.566	0	0	0
MH-2709	696.97	689.22	688.7257	46	16	0	8.2443	12.566	0	0	0
MH-2743	697.98	690.48	689.9995	46	15	0	7.9805	12.566	0	0	0
MH-2831	685.54	678.45	677.8727	46	18	0	7.6673	12.566	0	0	0
MH-2833	687.69	680.61	680.1517	46	16	0	7.5383	12.566	0	0	0
MH-2835	689.67	681.01	680.5521	46	18	0	9.1179	12.566	0	0	0
MH-2836	690.3	681.97	681.4695	46	17	0	8.8305	12.566	0	0	0
MH-2839	686.55	676.55	675.89	46	17	0	10.66	12.566	0	0	0
MH-2840	683.76	677.17	676.5129	46	15	0	7.2471	12.566	0	0	0
MH-2895	690.15	682.49	682.0119	46	15	0	8.1381	12.566	0	0	0
MH-2898	695.43	687.6	687.0427	46	15	0	8.3873	12.566	0	0	0
MH-2920	694.86	691.09	682.066	46	16	0	12.794	12.566	0	0	0
MH-2921	696.85	689.09	683.0904	46	21	0	13.7596	12.566	0	0	0
MH-2922	702.44	690.28	689.6624	46	22	0	12.7776	12.566	0	0	0
MH-2933	692.47	684.69	684.061	46	18	0	8.409	12.566	0	0	0
MH-2939	705.43	695.09	694.4674	46	17	0	10.9626	12.566	0	0	0
MH-2960	699.96	691.88	691.2595	46	17	0	8.7005	12.566	0	0	0
MH-2975	698	680.0467	679.5819	46	21	0	18.4181	12.566	0	0	0
MH-2976	698.01	680.9267	680.4611	46	19	0	17.5489	12.566	0	0	0
MH-2978	698.89	681.7267	681.2615	46	17	0	17.6285	12.566	0	0	0
MH-3072	698.54	689.38	688.945	46	19	0	9.595	12.566	0	0	0
MH-3073	700.04	690.46	690.0092	46	18	0	10.0308	12.566	0	0	0
MH-3074	702.25	691.34	690.8878	46	16	0	11.3622	12.566	0	0	0
MH-3075	706.07	694.41	693.8585	46	19	0	12.2115	12.566	0	0	0
MH-3076	709.37	696.62	696.0685	46	17	0	13.3015	12.566	0	0	0
MH-3078	710	698.82	698.2689	46	16	0	11.7311	12.566	0	0	0
MH-3079	708.94	701.28	700.7288	46	15	0	8.2112	12.566	0	0	0
MH-3080	693.25	681.09	680.6654	46	20	0	12.5846	12.566	0	0	0
MH-3081	690.5	682.79	682.3599	46	18	0	8.1401	12.566	0	0	0
MH-3082	694.34	685.11	684.0083	46	16	0	10.3317	12.566	0	0	0
MH-3083	695.83	687.08	686.5325	46	15	0	9.2975	12.566	0	0	0
MH-3086	697.88	687.13	686.6352	46	21	0	11.2448	12.566	0	0	0
MH-3087	698.06	689.18	687.9806	46	20	0	10.0794	12.566	0	0	0
MH-3200	681.42	672.85	671.5499	46	22	0	9.8701	12.566	0	0	0
MH-3204	685.4	672.26	669.4616	46	24	0	15.9384	12.566	0	0	0
MH-3207	684.51	671.75	670.2096	46	23	0	14.3004	12.566	0	0	0
MH-4634	701.25	693.59	692.9387	46	15	0	8.3113	12.566	0	0	0
MH-16260	705.51	694.88	694.2603	46	27	0	11.2497	12.566	0	0	0
MH-16261	706.26	695.38	694.7468	46	21	0	11.5132	12.566	0	0	0
MH-16262	705.11	696.28	695.6371	46	16	0	9.4729	12.566	0	0	0
MH-16263	706.02	696.58	695.9372	46	22	0	10.0828	12.566	0	0	0
MH-16264	706.73	697.07	696.4262	46	19	0	10.3038	12.566	0	0	0
MH-16265	707.89	697.51	696.8725	46	16	0	11.0175	12.566	0	0	0
MH-16266	706.71	694.37	691.7245	46	23	0	14.9855	12.566	0	0	0
MH-635	676.2	669.92	668.7565	46	19	0	7.4435	12.566	0	0	0
MH-1005	682.65	678.49	671.5392	46	16	0	11.1108	12.566	0	0	0
MH-1006	689.42	681.09	680.5164	46	15	0	8.9036	12.566	0	0	0
MH-2646	683.4	673.15	672.32	0	0	0	11.08	12.566	0	0	0
MH-4319	679	670.79	670.11	0	0	0	8.89	12.566	0	0	0
MH-4320	683	672.44	671.59	0	0	0	11.41	12.566	0	0	0
MH-4321	677.62	670.85	670.1608	46	17	0	7.4592	12.566	0	0	0
MH-604	685.1	674.55	666.4989	46	19	0	18.6011	12.566	0	0	0
MH-634	679	668.26	667.5732	46	21	0	11.4268	12.566	0	0	0
MH-2841	678	673.76	667.6878	46	24	0	10.3122	12.566	0	0	0
MH-2842	679.5	674.74	674.1934	46	17	0	5.3066	12.566	0	0	0
MH-2843	682.25	675.55	674.9996	46	15	0	7.2504	12.566	0	0	0
MH-3208	680	665.87	664.3145	46	26	0	15.6855	12.566	0	0	0
MH-3209	679	667.4	666.0855	46	25	0	12.9145	12.566	0	0	0
MH-3210	678	668.43	667.1228	46	24	0	10.8772	12.566	0	0	0
MH-4343	678	674.04	673.5038	46	17	0	4.4962	12.566	0	0	0
MH-4344	684.5	675.19	674.646	46	15	0	9.854	12.566	0	0	0
MH-602	675.4	663.95	663.37	0	0	0	12.03	12.566	0	0	0
MH-603	680	665.55	664.8989	46	20	0	15.1011	12.566	0	0	0
MH-621	687.5	676.09	675.5239	46	18	0	11.9761	12.566	0	0	0
MH-622	690	678.1	677.5366	46	16	0	12.4634	12.566	0	0	0
MH-624	690	680.16	679.5957	46	15	0	10.4043	12.566	0	0	0

Table 9
6-Month Recurrence Interval Event - Modeling Results - Conveyance Design (Same as Existing Conditions for 6-Month RI)
Pipe Summary - South Basin

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Proposed Pipe Diameter (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	RJ tio of Max to Design Flow	Maximum Water Elevation at Pipe Ends Upstream (ft)	Maximum Water Elevation at Pipe Ends Downstream (ft)	RJ tio S/@ US	RJ tio S/@ DS
P-795	1.0234	2.9026	8.04		0.1104	46	16	1.893	46	16	0.1079	694.5687	693.2681	0.222	0.221
P-796	0.9213	2.6131	8.04		0.1875	46	19	2.0174	46	20	0.2035	691.8684	690.6181	0.311	0.296
P-797	0.8997	2.5519	8.04		0.5425	46	19	2.6577	46	20	0.603	682.2376	681.4286	0.564	0.55
P-798	0.927	2.6292	8.04		0.5425	46	20	2.7302	46	21	0.5853	681.4286	680.6281	0.55	0.549
P-799	0.9281	2.6323	8.04		0.5424	46	21	5.5157	0	9	0.5844	680.6281	679.7499	0.549	0.552
P-800	0.9205	2.6109	8.04		0.5423	46	22	3.1914	0	10	0.5891	679.7499	678.9077	0.552	0.623
P-587	1.9446	3.594	9.96		0.9739	46	21	3.581	46	22	0.5009	678.9077	678.0288	0.503	0.492
P-589	2.0121	3.7188	9.96		0.9739	46	22	3.5693	46	23	0.484	678.0288	677.17	0.492	0.602
P-591	2.0187	3.731	9.96		1.3609	46	22	3.9864	46	22	0.6742	677.17	676.231	0.602	0.616
P-592	1.9757	3.6516	9.96		1.3609	46	22	3.8252	46	23	0.6888	676.231	675.4028	0.616	0.714
P-594	1.9366	3.5792	9.96		1.625	46	22	4.0476	0	6	0.8391	675.4028	674.377	0.726	0.551
P-596	2.7797	5.1375	9.96		1.625	46	23	5.3263	46	23	0.5846	674.377	672.7137	0.551	0.547
P-1055	12.484	5.1902	21		1.8354	46	23	3.7062	46	24	0.147	672.7137	671.5523	0.259	0.258
P-1056	12.1716	5.0604	21		1.8354	46	24	3.6399	46	25	0.1508	671.5495	670.4582	0.263	0.262
P-1057	12.7218	5.2891	21		1.8354	46	25	3.7574	46	25	0.1443	670.2092	669.488	0.257	0.256
P-281	1.5457	4.3841	8.04		0.0975	46	15	2.2387	46	16	0.0631	681.5442	678.5113	0.185	0.136
P-282	2.4502	6.9497	8.04		0.0973	46	16	3.3575	46	17	0.0397	678.5113	673.1502	0.136	0.135
P-525	1.1042	3.1318	8.04		0.1626	46	15	2.2366	46	16	0.1472	679.964	678.7932	0.26	0.259
P-536	1.1188	3.1733	8.04		0.1624	46	17	2.251	46	18	0.1452	678.7932	677.2911	0.259	0.255
P-538	1.1367	3.2242	8.04		0.1621	46	19	3.6999	0	6	0.1426	677.2911	675.7605	0.255	0.255
P-739	1.4445	2.6698	9.96		0.1039	46	16	1.5398	46	17	0.0719	676.4914	675.8688	0.182	0.179
P-737	1.4754	2.7268	9.96		0.1037	46	17	1.3765	42	38	0.0703	675.8688	675.4028	0.179	0.413
P-565	1.3565	3.8475	8.04		0.1626	46	15	2.5861	46	15	0.1198	683.7766	681.8995	0.234	0.238
P-569	1.3565	3.8475	8.04		0.1624	46	16	2.5453	46	17	0.1197	681.8995	680.0106	0.238	0.225
P-571	1.4675	4.1623	8.04		0.1622	46	18	4.4869	0	4	0.1105	680.0106	677.8199	0.225	0.224
P-766	2.4801	7.0346	8.04		0.1171	46	15	3.2333	46	15	0.0472	687.0289	681.9878	0.148	0.25
P-768	0.9118	2.5862	8.04		0.1169	46	16	1.719	46	17	0.1282	681.9878	681.4482	0.25	0.221
P-681	1.0876	3.0847	8.04		0.1168	46	17	5.0217	0	5	0.1074	681.4482	680.5248	0.221	0.276
P-683	0.702	1.9912	8.04		0.1166	46	18	1.4734	46	18	0.1661	680.5248	680.1245	0.276	0.275
P-692	1.3671	3.8776	8.04		0.2265	46	16	2.7911	46	16	0.1657	680.1245	677.8404	0.275	0.329
P-693	1.4663	2.71	9.96		0.2263	46	19	1.6436	46	17	0.1543	677.8404	677.17	0.265	0.602
P-263	1.121	3.1796	8.04		0.143	46	15	2.1317	46	16	0.1276	689.9755	688.7035	0.247	0.229
P-610	1.2522	3.5516	8.04		0.1429	46	17	2.3482	46	18	0.1141	688.7035	687.3913	0.229	0.226
P-611	1.279	3.6278	8.04		0.1428	46	18	4.5826	0	4	0.1116	687.3913	686.0706	0.226	0.225
P-833	1.4807	4.1999	8.04		0.0779	46	15	2.2208	46	15	0.0526	700.7143	698.2544	0.156	0.156
P-835	1.4813	4.2015	8.04		0.0778	46	17	2.2182	46	18	0.0526	698.2544	696.054	0.156	0.155
P-837	1.4882	4.2211	8.04		0.0778	46	18	11.4791	0	6	0.0523	696.054	693.844	0.155	0.155
P-841	1.4865	4.2162	8.04		0.0777	46	20	1.9613	46	20	0.0523	693.844	690.8595	0.155	0.283
P-844	0.9982	2.8311	8.04		0.1745	46	17	2.1263	46	17	0.1748	690.8595	689.9808	0.283	0.285
P-845	0.9853	2.7947	8.04		0.1744	46	19	2.0853	46	18	0.177	689.9808	688.9147	0.285	0.306
P-1996	0.8808	2.4982	8.04		0.1743	46	20	2.5856	0	5	0.1979	688.9147	688.701	0.306	0.285
P-864	1.6033	4.5475	8.04		0.1743	46	20	2.966	46	20	0.1087	687.9591	686.6131	0.223	0.228
P-872	1.5247	4.3246	8.04		0.1743	46	22	3.8733	0	18	0.1143	686.6131	684.5925	0.228	0.228
P-873	2.0906	5.9296	8.04		0.1171	46	15	2.7379	46	15	0.056	686.5176	683.9756	0.161	0.322
P-876	1.3205	3.7453	8.04		0.2899	46	17	2.9711	46	19	0.2196	683.9756	682.3284	0.322	0.311
P-881	1.3799	3.9139	8.04		0.2899	46	19	4.1344	0	2	0.2101	682.3284	680.6331	0.311	0.318
P-883	1.3234	3.7536	8.04		0.2898	46	20	3.4723	0	2	0.219	680.6331	679.153	0.318	0.318
P-792	0.9153	2.5962	8.04		0.1169	46	16	1.7821	46	16	0.1277	691.3715	689.7741	0.241	0.245
P-788	0.9176	2.6027	8.04		0.1164	46	19	1.7507	46	19	0.1268	689.7741	688.575	0.245	0.231
P-2328	4.0261	11.4195	8.04		0.078	46	15	3.7502	46	15	0.0194	692.9843	684.1546	0.096	0.201
P-786	0.9122	2.5873	8.04		0.2455	46	18	2.0262	46	18	0.2691	683.2574	682.2376	0.354	0.564
P-17598	0.8621	2.4452	8.04		0.0391	46	15	1.1641	46	16	0.0453	696.9431	696.4827	0.154	0.123
P-17599	1.2023	3.4101	8.04		0.039	46	16	1.5435	46	16	0.0325	696.4827	695.9985	0.123	0.132
P-17600	1.0386	2.9459	8.04		0.039	46	18	3.4302	0	6	0.0375	695.9985	694.8327	0.132	0.183
P-17601	1.0499	2.978	8.04		0.0391	46	15	1.3363	46	15	0.0372	695.6981	694.8327	0.132	0.183
P-17602	1.0612	3.0099	8.04		0.0778	46	18	1.686	46	18	0.0734	694.8327	694.3663	0.183	0.233
P-17604	0.729	2.0677	8.04		0.0777	46	20	2.2199	0	8	0.1066	694.3663	693.8258	0.233	0.188
P-783	0.8808	2.4982	8.04		0.0778	46	16	1.3739	46	16	0.0883	684.1546	683.2574	0.201	0.354
P-287	1.4614	4.1449	8.04		0.065	46	16	2.0721	46	16	0.0445	680.5164	677.9153	0.144	0.142
P-1888	1.9056	3.5221	9.96		0.1168	46	16	1.9452	46	16	0.0613	671.5392	670.1608	0.168	0.17
P-1887	1.866	3.4487	9.96		0.1166	46	18	1.9147	46	18	0.0625	670.1608	669.23	0.17	0.169
P-1885	1.396	3.9594	8.04		0	0	0	0	0	0	0	670.11	670.11	0	0
P-1884	1.4066	3.9895	8.04		0	0	0	0	0	0	0	670.11	668.7565	0	0
P-2991	0.8028	2.277	8.04		0	0	0	0	0	0	0	669.4612	669.4612	0	0
P-600	1.9414	3.5882	9.96		0	0	0	0	0	0	0	672.32	672.32	0	0
P-601	1.8314	3.3849	9.96		0	0	0	0	0	0	0	671.5392	671.5392	0	0
P-1059	11.863	4.9321	21		1.8795	46	25	3.5991	46	27	0.1584	669.4612	668.1301	0.269	0.269
P-1060	14.7317	6.1247	21		2.0135	46	25	4.2731	46	26	0.1367	667.6874	667.1224	0.25	0.253
P-1061	14.491	6.0247	21		2.0136	46	26	4.2218	46	27	0.139	667.1224	666.085	0.253	0.249
P-1062	14.8742	6.184	21		2.0134	46	27	4.314	46	27	0.1354	666.085	664.5541	0.249	0.248
P-1943	0.9226	2.6167	8.04		0.0714	46	15	1.5374	46	15	0.0774	674.646	673.5038	0.188	0.2
P-1944	0.8643	2.4516	8.04		0.0713	46	17	1.444	46	17	0.0825	673.5038	673.2102	0.2	0.179
P-753	0.9328	2.6456	8.04		0.065	46	15	1.5128	46	15	0.0697	674.9996	674.1934	0.179	0.184
P-760	0.9164	2.5994	8.04		0.0648	46	18	1.7809	0	1	0.0707	674.1934	673.2046	0.184	0.171
P-254	2.139	3.9533	9.96		0.1259	46	19	2.146	46	19	0.0589	668.7565	667.5732	0.164	0.172
P-255	1.9378	3.5815	9.96		0.1259	46	21	1.9422	46	22	0.065	667.5732	666.4989	0.172	0.216
P-242	1.4403	4.0851	8.04		0.0779	46	15	2.1769	46	15	0.0541	679.5958	677.5366	0.158	0.159
P-243	1.4437	4.0947	8.04		0.0778	46	17	2.1632	46	18	0.0539	677.5366	675.5239	0.159	0.155
P-244	1.4967	4.245	8.04		0.0778	46	18	2.232	46	18	0.052	675.5239	673.9833	0.155	0.154
P-1889	2.5618	4.7348	9.96		0.2612	46	19	3.0422	46	20	0.102	666.4989	664.8989	0.216	0.216
P-1890	2.5618	4.7348	9.96		0.2612	46	20	2.8698	46	20	0.1019	664.8989	663.37	0.216	0.301
GATE	#	1	Undefnd		Undefnd	Undefn	2.0134	46	27						
GATE	#	2	Undefnd		Undefnd	Undefn	0.2612	46	20						

Table 10
1-Year Recurrence Interval Event - Modeling Results - Conveyance Design (Same as Existing Conditions for 1-Year RI)
Pipe Summary - South Basin

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-993	689	682.09	681.5763	46	15	0	7.4237	12.566	0	0	0
MH-999	683.01	674.01	672.7615	46	21	0	10.2485	12.566	0	0	0
MH-1001	685.92	679.09	678.5342	46	16	0	7.3858	12.566	0	0	0
MH-2496	685.3	676.26	675.4907	46	21	0	9.8093	12.566	0	0	0
MH-2497	687.62	677.79	677.3368	46	18	0	10.2832	12.566	0	0	0
MH-2499	690.87	679.29	678.8398	46	16	0	12.0302	12.566	0	0	0
MH-2507	691.29	680.46	680.0107	46	15	0	11.2793	12.566	0	0	0
MH-2592	687.8	676.5533	676.2755	46	21	0	11.5245	12.566	0	0	0
MH-2594	691.34	678.34	677.2081	46	20	0	14.1319	12.566	0	0	0
MH-2598	693.94	680.53	680.05	46	17	0	13.89	12.566	0	0	0
MH-2599	692.41	682.41	681.9418	46	16	0	10.4682	12.566	0	0	0
MH-2610	692.87	684.29	683.818	46	15	0	9.052	12.566	0	0	0
MH-2630	694	678.4533	678.0113	46	20	0	15.9887	12.566	0	0	0
MH-2631	697.74	686.59	678.8898	46	19	0	18.8502	12.566	0	0	0
MH-2645	683.5	674.7533	674.4326	46	21	0	9.0674	12.566	0	0	0
MH-2707	696.91	687.91	687.431	46	17	0	9.479	12.566	0	0	0
MH-2709	696.97	689.22	688.7442	46	16	0	8.2258	12.566	0	0	0
MH-2743	697.98	690.48	690.0194	46	15	0	7.9606	12.566	0	0	0
MH-2831	685.54	678.45	677.8999	46	18	0	7.6401	12.566	0	0	0
MH-2833	687.69	680.61	680.1745	46	16	0	7.5155	12.566	0	0	0
MH-2835	689.67	681.01	680.575	46	18	0	9.095	12.566	0	0	0
MH-2836	690.3	681.97	681.4872	46	17	0	8.8128	12.566	0	0	0
MH-2839	686.55	676.55	675.9073	46	17	0	10.6427	12.566	0	0	0
MH-2840	683.76	677.17	676.5305	46	15	0	7.2295	12.566	0	0	0
MH-2895	690.15	682.49	682.0321	46	15	0	8.1179	12.566	0	0	0
MH-2898	695.43	687.6	687.054	46	15	0	8.376	12.566	0	0	0
MH-2920	694.86	691.09	682.0881	46	16	0	12.7719	12.566	0	0	0
MH-2921	696.85	689.09	683.0976	46	21	0	13.7524	12.566	0	0	0
MH-2922	702.44	690.28	689.6669	46	21	0	12.7731	12.566	0	0	0
MH-2933	692.47	684.69	684.0652	46	18	0	8.4048	12.566	0	0	0
MH-2939	705.43	695.09	694.4718	46	17	0	10.9582	12.566	0	0	0
MH-2960	699.96	691.88	691.2644	46	16	0	8.6956	12.566	0	0	0
MH-2975	698	680.0467	679.6036	46	20	0	18.3964	12.566	0	0	0
MH-2976	698.01	680.9267	680.4827	46	19	0	17.5273	12.566	0	0	0
MH-2978	698.89	681.7267	681.2831	46	17	0	17.6069	12.566	0	0	0
MH-3072	698.54	689.38	688.9705	46	19	0	9.5695	12.566	0	0	0
MH-3073	700.04	690.46	690.033	46	18	0	10.007	12.566	0	0	0
MH-3074	702.25	691.34	690.9114	46	16	0	11.3386	12.566	0	0	0
MH-3075	706.07	694.41	693.8705	46	19	0	12.1995	12.566	0	0	0
MH-3076	709.37	696.62	696.0806	46	17	0	13.2894	12.566	0	0	0
MH-3078	710	698.82	698.2811	46	16	0	11.7189	12.566	0	0	0
MH-3079	708.94	701.28	700.741	46	15	0	8.199	12.566	0	0	0
MH-3080	693.25	681.09	680.6929	46	19	0	12.5571	12.566	0	0	0
MH-3081	690.5	682.79	682.3866	46	18	0	8.1134	12.566	0	0	0
MH-3082	694.34	685.11	684.0361	46	16	0	10.3039	12.566	0	0	0
MH-3083	695.83	687.08	686.545	46	15	0	9.285	12.566	0	0	0
MH-3086	697.88	687.13	686.6535	46	20	0	11.2265	12.566	0	0	0
MH-3087	698.06	689.18	687.9985	46	19	0	10.0615	12.566	0	0	0
MH-3200	681.42	672.85	671.5981	46	22	0	9.8219	12.566	0	0	0
MH-3204	685.4	672.26	669.5113	46	24	0	15.8887	12.566	0	0	0
MH-3207	684.51	671.75	670.2566	46	23	0	14.2534	12.566	0	0	0
MH-4634	701.25	693.59	692.9412	46	15	0	8.3088	12.566	0	0	0
MH-16260	705.51	694.88	694.2651	46	26	0	11.2449	12.566	0	0	0
MH-16261	706.26	695.38	694.7517	46	21	0	11.5083	12.566	0	0	0
MH-16262	705.11	696.28	695.6393	46	16	0	9.4707	12.566	0	0	0
MH-16263	706.02	696.58	695.9393	46	21	0	10.0807	12.566	0	0	0
MH-16264	706.73	697.07	696.4286	46	18	0	10.3014	12.566	0	0	0
MH-16265	707.89	697.51	696.8755	46	16	0	11.0145	12.566	0	0	0
MH-16266	706.71	694.37	691.7308	46	22	0	14.9792	12.566	0	0	0
MH-635	676.2	669.92	668.803	46	16	0	7.397	12.566	0	0	0
MH-1005	682.65	678.49	671.5532	46	16	0	11.0968	12.566	0	0	0
MH-1006	689.42	681.09	680.5258	46	15	0	8.8942	12.566	0	0	0
MH-2646	683.4	673.15	672.32	0	0	0	11.08	12.566	0	0	0
MH-4319	679	670.79	670.11	0	0	0	8.89	12.566	0	0	0
MH-4320	683	672.44	671.59	0	0	0	11.41	12.566	0	0	0
MH-4321	677.62	670.85	670.175	46	17	0	7.445	12.566	0	0	0
MH-604	685.1	674.55	666.5398	46	17	0	18.5602	12.566	0	0	0
MH-634	679	668.26	667.6222	46	17	0	11.3778	12.566	0	0	0
MH-2841	678	673.76	667.7336	46	24	0	10.2664	12.566	0	0	0
MH-2842	679.5	674.74	674.2057	46	17	0	5.2943	12.566	0	0	0
MH-2843	682.25	675.55	675.0118	46	15	0	7.2382	12.566	0	0	0
MH-3208	680	665.87	664.3601	46	25	0	15.6399	12.566	0	0	0
MH-3209	679	667.4	666.1307	46	25	0	12.8693	12.566	0	0	0
MH-3210	678	668.43	667.1691	46	24	0	10.8309	12.566	0	0	0
MH-4343	678	674.04	673.5168	46	17	0	4.4832	12.566	0	0	0
MH-4344	684.5	675.19	674.6588	46	15	0	9.8412	12.566	0	0	0
MH-602	675.4	663.95	663.37	0	0	0	12.03	12.566	0	0	0
MH-603	680	665.55	664.9397	46	18	0	15.0603	12.566	0	0	0
MH-621	687.5	676.09	675.5342	46	17	0	11.9658	12.566	0	0	0
MH-622	690	678.1	677.5471	46	16	0	12.4529	12.566	0	0	0
MH-624	690	680.16	679.6063	46	15	0	10.3937	12.566	0	0	0

Table 10
1-Year Recurrence Interval Event - Modeling Results - Conveyance Design (Same as Existing Conditions for 1-Year RI)
Pipe Summary - South Basin

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Proposed Pipe Diameter (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends Upstream (ft)	Maximum Water Elevation at Pipe Ends Downstream (ft)	Ratio d/D US	Ratio d/D DS
P-795	1.0234	2.9026	8.04		0.0117	46	17	0.9403	46	17	0.0115	694.4718	693.1673	0.077	0.071
P-796	0.9213	2.6131	8.04		0.02	46	23	1.0119	46	23	0.0217	691.7308	690.4823	0.106	0.093
P-797	0.8878	2.5434	8		0.2208	46	16	2.097	46	17	0.2487	682.0881	681.2831	0.342	0.335
P-798	0.9147	2.6205	8		0.2207	46	18	2.1547	46	19	0.2413	681.2831	680.4827	0.335	0.334
P-799	0.9158	2.6236	8		0.2206	46	19	2.2142	0	8	0.2409	680.4827	679.6036	0.334	0.335
P-800	0.9085	2.6023	8.0004		0.2204	46	21	2.4288	0	15	0.2427	679.6036	678.8898	0.335	0.6
P-587	1.9652	3.6035	9.9996		0.9074	46	20	3.5179	46	20	0.4617	678.8898	678.0113	0.48	0.47
P-589	2.0335	3.7287	9.9996		0.9073	46	20	3.7793	0	12	0.4462	678.0113	677.2081	0.47	0.646
P-591	2.0402	3.7408	9.9996		1.5227	46	20	4.0744	46	21	0.7464	677.2081	676.2755	0.646	0.667
P-592	1.9969	3.6613	10		1.5226	46	21	3.8531	46	22	0.7625	676.2755	675.4907	0.667	0.817
P-594	1.9574	3.5888	10		1.9429	46	21	4.1342	46	22	0.9926	675.4907	674.4326	0.829	0.615
P-596	2.8093	5.1511	9.9996		1.9429	46	22	5.5366	46	22	0.6916	674.4326	672.7615	0.615	0.602
P-1055	12.484	5.1902	21		2.2353	46	22	3.9244	46	23	0.1791	672.7615	671.6009	0.287	0.286
P-1056	12.1716	5.0604	21		2.2352	46	23	3.8528	46	24	0.1836	671.5981	670.5072	0.29	0.29
P-1057	12.7218	5.2891	21		2.2352	46	23	3.979	46	24	0.1757	670.2566	669.5362	0.284	0.284
P-281	1.5457	4.3841	8.04		0.1548	46	15	2.5684	46	16	0.1001	681.5763	678.5342	0.233	0.17
P-282	2.4502	6.9497	8.04		0.1546	46	16	3.8681	46	16	0.0631	678.5342	673.1735	0.17	0.169
P-525	1.1042	3.1318	8.04		0.2581	46	15	2.5515	46	16	0.2338	680.0107	678.8398	0.329	0.328
P-536	1.1188	3.1733	8.04		0.2579	46	17	2.5676	46	18	0.2305	678.8398	677.3368	0.328	0.324
P-538	1.1367	3.2242	8.04		0.2574	46	18	2.6058	46	19	0.2265	677.3368	675.8067	0.324	0.323
P-739	1.4445	2.6698	9.96		0.1652	46	15	1.7659	46	16	0.1143	676.5305	675.9073	0.229	0.226
P-737	1.4754	2.7268	9.96		0.1649	46	17	1.55	42	35	0.1118	675.9073	675.4907	0.226	0.519
P-565	1.3565	3.8475	8.04		0.2581	46	15	2.952	46	15	0.1903	683.818	681.9418	0.296	0.301
P-569	1.3565	3.8475	8.04		0.2579	46	16	2.9058	46	17	0.1901	681.9418	680.05	0.301	0.284
P-571	1.4675	4.1623	8.04		0.2576	46	17	4.4619	0	4	0.1755	680.05	677.8599	0.284	0.283
P-766	2.4801	7.0346	8.04		0.1858	46	15	3.7092	46	15	0.0749	687.054	682.0321	0.185	0.316
P-768	0.9118	2.5862	8.04		0.1856	46	16	1.9688	46	16	0.2036	682.0321	681.4872	0.317	0.279
P-681	1.0876	3.0847	8.04		0.1855	46	17	6.4102	0	4	0.1706	681.4872	680.575	0.279	0.351
P-683	0.702	1.9912	8.04		0.1852	46	18	1.6784	46	18	0.2638	680.575	680.1745	0.351	0.35
P-692	1.3671	3.8776	8.04		0.3596	46	16	3.1826	46	16	0.263	680.1745	677.8999	0.35	0.418
P-693	1.4663	2.71	9.96		0.3593	46	18	1.9796	46	17	0.245	677.8999	677.2081	0.337	0.648
P-263	1.121	3.1796	8.04		0.2271	46	15	2.4364	46	16	0.2026	690.0194	688.7442	0.313	0.29
P-610	1.2522	3.5516	8.04		0.227	46	16	2.6827	46	17	0.1813	688.7442	687.431	0.29	0.285
P-611	1.279	3.6278	8.04		0.2268	46	18	3.0921	0	4	0.1773	687.431	686.1108	0.285	0.285
P-833	1.4807	4.1999	8.04		0.1238	46	15	2.5475	46	15	0.0836	700.7409	698.2811	0.195	0.196
P-835	1.4813	4.2015	8.04		0.1237	46	16	2.5447	46	17	0.0835	698.281	696.0806	0.196	0.195
P-837	1.4882	4.2211	8.04		0.1237	46	18	12.6873	0	4	0.0831	696.0806	693.8705	0.195	0.195
P-841	1.4865	4.2162	8.04		0.1235	46	19	2.2465	46	19	0.0831	693.8705	690.9114	0.195	0.36
P-844	0.9982	2.8311	8.04		0.2773	46	17	2.4208	46	16	0.2778	690.9114	690.033	0.36	0.363
P-845	0.9853	2.7947	8.04		0.2771	46	18	2.3764	46	18	0.2812	690.033	688.9705	0.363	0.389
P-1996	0.8808	2.4982	8.04		0.277	46	19	2.2044	46	20	0.3146	688.9705	688.7528	0.389	0.362
P-864	1.6033	4.5475	8.04		0.277	46	20	5.2194	0	10	0.1728	687.9985	686.6535	0.281	0.289
P-872	1.5247	4.3246	8.04		0.277	46	21	3.2967	0	9	0.1817	686.6535	684.6332	0.289	0.288
P-873	2.0906	5.9296	8.04		0.1858	46	15	3.131	46	15	0.0889	686.545	684.0361	0.202	0.412
P-876	1.3205	3.7453	8.04		0.4608	46	17	3.3778	46	18	0.349	684.0361	682.3866	0.412	0.398
P-881	1.3799	3.9139	8.04		0.4607	46	18	3.5106	46	18	0.3339	682.3866	680.6929	0.398	0.407
P-883	1.3234	3.7536	8.04		0.4607	46	20	3.4144	46	20	0.3481	680.6929	679.2127	0.407	0.407
P-792	0.9153	2.5962	8.04		0.0124	46	17	0.9136	46	17	0.0136	691.2644	689.6669	0.081	0.085
P-788	0.9176	2.6027	8.04		0.0123	46	22	1.8694	0	8	0.0135	689.6669	688.4688	0.085	0.073
P-2328	4.0261	11.4195	8.04		0.0082	46	15	4.2587	0	1	0.002	692.9412	684.0652	0.032	0.067
P-786	0.9122	2.5873	8.04		0.026	46	21	0.8368	46	26	0.0285	683.0976	682.0881	0.116	0.34
P-17598	0.8621	2.4452	8.04		0.0042	46	16	0.5826	46	17	0.0049	696.8755	696.4286	0.053	0.043
P-17599	1.2023	3.4101	8.04		0.0042	46	18	2.0649	0	4	0.0035	696.4286	695.9393	0.043	0.044
P-17600	1.0386	2.9459	8.04		0.0042	46	21	2.5651	0	19	0.004	695.9393	694.7517	0.044	0.062
P-17601	1.0499	2.978	8.04		0.0042	46	16	0.7165	46	16	0.004	695.6393	694.7517	0.044	0.062
P-17602	1.0612	3.0099	8.04		0.0084	46	22	1.2181	0	4	0.0079	694.7517	694.2651	0.062	0.082
P-17604	0.729	2.0677	8.04		0.0084	46	26	1.3937	0	16	0.0115	694.2651	693.7388	0.082	0.058
P-783	0.8808	2.4982	8.04		0.0082	46	18	0.6967	46	17	0.0093	684.0652	683.0976	0.067	0.116
P-287	1.4614	4.1449	8.04		0.079	46	16	2.2083	46	16	0.054	680.5258	677.9256	0.158	0.158
P-1888	1.9056	3.5221	9.96		0.142	46	16	2.06	46	16	0.0745	671.5532	670.175	0.185	0.187
P-1887	1.866	3.4487	9.96		0.1418	46	18	2.0281	46	18	0.076	670.175	669.244	0.187	0.186
P-1885	1.396	3.9594	8.04		0	0	0	0	0	0	0	670.11	670.11	0	0
P-1884	1.4066	3.9895	8.04		0	0	0	0	0	0	0	670.11	668.803	0	0
P-2991	0.8028	2.277	8.04		0	0	0	0	0	0	0	669.5113	669.5113	0	0
P-600	1.9414	3.5882	9.96		0	0	0	0	0	0	0	672.32	672.32	0	0
P-601	1.8314	3.3849	9.96		0	0	0	0	0	0	0	671.5532	671.5532	0	0
P-1059	11.863	4.9321	21		2.289	46	24	3.8069	46	25	0.193	669.5113	668.1801	0.298	0.297
P-1060	14.7317	6.1247	21		2.4523	46	24	4.522	46	25	0.1665	667.7336	667.1691	0.276	0.279
P-1061	14.491	6.0247	21		2.4524	46	24	4.471	46	26	0.1692	667.1691	666.1307	0.279	0.275
P-1062	14.8742	6.184	21		2.4522	46	25	4.567	46	26	0.1649	666.1307	664.6001	0.275	0.274
P-1943	0.9226	2.6167	8.04		0.0868	46	15	1.6296	46	15	0.0941	674.6588	673.5168	0.207	0.219
P-1944	0.8643	2.4516	8.04		0.0867	46	17	1.5331	46	17	0.1003	673.5168	673.2236	0.219	0.199
P-753	0.9328	2.6456	8.04		0.079	46	15	1.6047	46	15	0.0847	675.0118	674.2057	0.197	0.203
P-760	0.9164	2.5994	8.04		0.0788	46	17	1.5552	46	18	0.086	674.2057	673.2168	0.203	0.189
P-254	2.139	3.9533	9.96		0.2282	46	16	2.5557	46	16	0.1067	668.803	667.6222	0.22	0.232
P-255	1.9378	3.5815	9.96		0.2282	46	18	2.3518	46	18	0.1177	667.6222	666.5398	0.232	0.265
P-242	1.4403	4.0851	8.04		0.0948	46	15	2.3043	46	15	0.0658	679.6063	677.5471	0.174	0.175
P-243	1.4437	4.0947	8.04		0.0947	46	16	2.2905	46	18	0.0656	677.5471	675.5342	0.175	0.171
P-244	1.4967	4.245	8.04		0.0946	46	18	3.6456	0	4	0.0632	675.5342	673.9936	0.171	0.17
P-1889	2.5618	4.7348	9.96		0.3933	46	17	3.4259	46	18	0.1535	666.5398	664.9397	0.265	0.265
P-1890	2.5618	4.7348	9.96		0.3933	46	18	3.3595	46	18	0.1535	664.9397	663.37	0.265	0.301
GATE	Undefnd	Undefn	Undefnd		2.4523	46	25								
GATE	Undefnd	Undefn	Undefnd		0.3932	46	18								

Table 11
2-Year Recurrence Interval Event - Modeling Results - Conveyance Design (Same as Existing Conditions for 2-Year RI)
Pipe Summary - South Basin

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-993	689	682.09	681.5931	46	15	0	7.4069	12.566	0	0	0
MH-999	683.01	674.01	672.8157	46	22	0	10.1943	12.566	0	0	0
MH-1001	685.92	679.09	678.5463	46	16	0	7.3737	12.566	0	0	0
MH-2496	685.3	676.26	675.7995	46	24	0	9.5005	12.566	0	0	0
MH-2497	687.62	677.79	677.3615	46	18	0	10.2585	12.566	0	0	0
MH-2499	690.87	679.29	678.8649	46	16	0	12.0051	12.566	0	0	0
MH-2507	691.29	680.46	680.0359	46	15	0	11.2541	12.566	0	0	0
MH-2592	687.8	676.5533	676.5	46	23	0	11.3	12.566	0	0	0
MH-2594	691.34	678.34	677.3198	46	22	0	14.0202	12.566	0	0	0
MH-2598	693.94	680.53	680.0712	46	17	0	13.8688	12.566	0	0	0
MH-2599	692.41	682.41	681.9644	46	15	0	10.4456	12.566	0	0	0
MH-2610	692.87	684.29	683.8402	46	15	0	9.0298	12.566	0	0	0
MH-2630	694	678.4533	678.0664	46	20	0	15.9336	12.566	0	0	0
MH-2631	697.74	686.59	678.9402	46	19	0	18.7998	12.566	0	0	0
MH-2645	683.5	674.7533	674.5153	46	25	0	8.9847	12.566	0	0	0
MH-2707	696.91	687.91	687.4523	46	17	0	9.4577	12.566	0	0	0
MH-2709	696.97	689.22	688.7659	46	16	0	8.2041	12.566	0	0	0
MH-2743	697.98	690.48	690.0429	46	15	0	7.9371	12.566	0	0	0
MH-2831	685.54	678.45	677.9321	46	18	0	7.6079	12.566	0	0	0
MH-2833	687.69	680.61	680.2018	46	16	0	7.4882	12.566	0	0	0
MH-2835	689.67	681.01	680.6023	46	18	0	9.0677	12.566	0	0	0
MH-2836	690.3	681.97	681.508	46	16	0	8.792	12.566	0	0	0
MH-2839	686.55	676.55	675.9422	46	24	0	10.6078	12.566	0	0	0
MH-2840	683.76	677.17	676.5496	46	15	0	7.2104	12.566	0	0	0
MH-2895	690.15	682.49	682.0557	46	15	0	8.0943	12.566	0	0	0
MH-2898	695.43	687.6	687.0672	46	15	0	8.3628	12.566	0	0	0
MH-2920	694.86	691.09	682.1144	46	15	0	12.7456	12.566	0	0	0
MH-2921	696.85	689.09	683.1056	46	21	0	13.7444	12.566	0	0	0
MH-2922	702.44	690.28	689.6721	46	21	0	12.7679	12.566	0	0	0
MH-2933	692.47	684.69	684.0702	46	17	0	8.3998	12.566	0	0	0
MH-2939	705.43	695.09	694.4764	46	16	0	10.9536	12.566	0	0	0
MH-2960	699.96	691.88	691.2697	46	16	0	8.6903	12.566	0	0	0
MH-2975	698	680.0467	679.6294	46	20	0	18.3706	12.566	0	0	0
MH-2976	698.01	680.9267	680.5083	46	19	0	17.5017	12.566	0	0	0
MH-2978	698.89	681.7267	681.3088	46	17	0	17.5812	12.566	0	0	0
MH-3072	698.54	689.38	689.001	46	19	0	9.539	12.566	0	0	0
MH-3073	700.04	690.46	690.0616	46	18	0	9.9784	12.566	0	0	0
MH-3074	702.25	691.34	690.9397	46	16	0	11.3103	12.566	0	0	0
MH-3075	706.07	694.41	693.8844	46	18	0	12.1856	12.566	0	0	0
MH-3076	709.37	696.62	696.0944	46	17	0	13.2756	12.566	0	0	0
MH-3078	710	698.82	698.295	46	16	0	11.705	12.566	0	0	0
MH-3079	708.94	701.28	700.7549	46	15	0	8.1851	12.566	0	0	0
MH-3080	693.25	681.09	680.7261	46	19	0	12.5239	12.566	0	0	0
MH-3081	690.5	682.79	682.4189	46	18	0	8.0811	12.566	0	0	0
MH-3082	694.34	685.11	684.0697	46	16	0	10.2703	12.566	0	0	0
MH-3083	695.83	687.08	686.5593	46	15	0	9.2707	12.566	0	0	0
MH-3086	697.88	687.13	686.675	46	20	0	11.205	12.566	0	0	0
MH-3087	698.06	689.18	688.0195	46	19	0	10.0405	12.566	0	0	0
MH-3200	681.42	672.85	671.6531	46	23	0	9.7669	12.566	0	0	0
MH-3204	685.4	672.26	669.568	46	24	0	15.832	12.566	0	0	0
MH-3207	684.51	671.75	670.3102	46	23	0	14.1998	12.566	0	0	0
MH-4634	701.25	693.59	692.9441	46	15	0	8.3059	12.566	0	0	0
MH-16260	705.51	694.88	694.2701	46	25	0	11.2399	12.566	0	0	0
MH-16261	706.26	695.38	694.7547	46	21	0	11.5053	12.566	0	0	0
MH-16262	705.11	696.28	695.6421	46	16	0	9.4679	12.566	0	0	0
MH-16263	706.02	696.58	695.9422	46	20	0	10.0778	12.566	0	0	0
MH-16264	706.73	697.07	696.4312	46	18	0	10.2988	12.566	0	0	0
MH-16265	707.89	697.51	696.879	46	16	0	11.011	12.566	0	0	0
MH-16266	706.71	694.37	691.738	46	22	0	14.972	12.566	0	0	0
MH-635	676.2	669.92	668.8228	46	16	0	7.3772	12.566	0	0	0
MH-1005	682.65	678.49	671.5696	46	15	0	11.0804	12.566	0	0	0
MH-1006	689.42	681.09	680.537	46	15	0	8.883	12.566	0	0	0
MH-2646	683.4	673.15	672.32	0	0	0	11.08	12.566	0	0	0
MH-4319	679	670.79	670.11	0	0	0	8.89	12.566	0	0	0
MH-4320	683	672.44	671.59	0	0	0	11.41	12.566	0	0	0
MH-4321	677.62	670.85	670.1913	46	17	0	7.4287	12.566	0	0	0
MH-604	685.1	674.55	666.5641	46	17	0	18.5359	12.566	0	0	0
MH-634	679	668.26	667.6431	46	17	0	11.3569	12.566	0	0	0
MH-2841	678	673.76	667.7859	46	23	0	10.2141	12.566	0	0	0
MH-2842	679.5	674.74	674.2198	46	17	0	5.2802	12.566	0	0	0
MH-2843	682.25	675.55	675.0258	46	15	0	7.2242	12.566	0	0	0
MH-3208	680	665.87	664.4116	46	25	0	15.5884	12.566	0	0	0
MH-3209	679	667.4	666.1827	46	25	0	12.8173	12.566	0	0	0
MH-3210	678	668.43	667.2217	46	23	0	10.7783	12.566	0	0	0
MH-4343	678	674.04	673.5325	46	17	0	4.4675	12.566	0	0	0
MH-4344	684.5	675.19	674.6737	46	15	0	9.8263	12.566	0	0	0
MH-602	675.4	663.95	663.37	0	0	0	12.03	12.566	0	0	0
MH-603	680	665.55	664.964	46	18	0	15.036	12.566	0	0	0
MH-621	687.5	676.09	675.5463	46	17	0	11.9537	12.566	0	0	0
MH-622	690	678.1	677.5596	46	16	0	12.4404	12.566	0	0	0
MH-624	690	680.16	679.6187	46	15	0	10.3813	12.566	0	0	0

Table 11
2-Year Recurrence Interval Event - Modeling Results - Conveyance Design (Same as Existing Conditions for 2-Year RI)
Pipe Summary - South Basin

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Proposed Pipe Diameter (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends Upstream (ft)	Maximum Water Elevation at Pipe Ends Downstream (ft)	Ratio d/D US	Ratio d/D DS
P-795	1.0234	2.9026	8.04		0.0144	46	17	1.0138	46	17	0.0141	694.4764	693.1738	0.084	0.08
P-796	0.9213	2.6131	8.04		0.0245	46	22	1.0817	46	22	0.0266	691.738	690.4892	0.116	0.103
P-797	0.8878	2.5434	8		0.2709	46	16	2.2196	46	17	0.3052	682.1144	681.3088	0.382	0.373
P-798	0.9147	2.6205	8		0.2708	46	18	2.2807	46	19	0.2961	681.3088	680.5083	0.373	0.372
P-799	0.9158	2.6236	8		0.2707	46	19	2.2825	46	19	0.2956	680.5083	679.6294	0.372	0.374
P-800	0.9085	2.6023	8.0004		0.2705	46	20	2.4288	0	15	0.2978	679.6294	678.9402	0.374	0.675
P-587	1.9652	3.6035	9.9996		1.1137	46	19	3.7092	46	20	0.5667	678.9402	678.0664	0.54	0.536
P-589	2.0335	3.7287	9.9996		1.1135	46	20	3.7793	0	12	0.5476	678.0664	677.3198	0.536	0.78
P-591	2.0402	3.7408	9.9996		1.8648	46	20	4.1399	45	22	0.9141	677.3198	676.5	0.78	0.936
P-592	1.9969	3.6613	10		1.8609	46	22	3.8691	44	54	0.9319	676.5	675.7995	0.936	1.187
P-594	1.9574	3.5888	10		2.3697	46	24	4.303	46	24	1.2107	675.7995	674.5153	1.199	0.714
P-596	2.8093	5.1511	9.9996		2.3697	46	25	5.7276	46	23	0.8435	674.5153	672.8157	0.714	0.667
P-1055	12.484	5.1902	21		2.7268	46	22	4.1526	46	23	0.2184	672.8157	671.6554	0.318	0.317
P-1056	12.1716	5.0604	21		2.7268	46	23	4.0779	46	24	0.224	671.6531	670.5629	0.322	0.322
P-1057	12.7218	5.2891	21		2.7268	46	24	4.2088	46	24	0.2143	670.3102	669.5898	0.314	0.314
P-281	1.5457	4.3841	8.04		0.1899	46	15	2.7265	46	16	0.1228	681.5931	678.5463	0.258	0.188
P-282	2.4502	6.9497	8.04		0.1897	46	16	4.1097	46	16	0.0774	678.5463	673.1855	0.188	0.187
P-525	1.1042	3.1318	8.04		0.3167	46	15	2.701	46	16	0.2868	680.0359	678.8649	0.367	0.365
P-536	1.1188	3.1733	8.04		0.3164	46	16	2.7183	46	18	0.2828	678.8649	677.3615	0.365	0.36
P-538	1.1367	3.2242	8.04		0.3159	46	18	2.7595	46	18	0.2779	677.3615	675.8314	0.36	0.36
P-739	1.4445	2.6698	9.96		0.2026	46	15	1.8771	46	15	0.1403	676.5496	675.9422	0.252	0.268
P-737	1.4754	2.7268	9.96		0.2	46	16	1.607	42	32	0.1356	675.9422	675.7995	0.268	0.891
P-565	1.3565	3.8475	8.04		0.3166	46	15	3.1277	46	15	0.2334	683.8402	681.9644	0.329	0.335
P-569	1.3565	3.8475	8.04		0.3164	46	16	3.0798	46	17	0.2332	681.9644	680.0712	0.335	0.315
P-571	1.4675	4.1623	8.04		0.3161	46	17	4.4619	0	4	0.2154	680.0712	677.881	0.315	0.315
P-766	2.4801	7.0346	8.04		0.228	46	15	3.9413	46	15	0.0919	687.0672	682.0557	0.205	0.352
P-768	0.9118	2.5862	8.04		0.2277	46	16	2.0882	46	16	0.2498	682.0557	681.508	0.352	0.31
P-681	1.0876	3.0847	8.04		0.2276	46	16	6.4102	0	4	0.2093	681.508	680.6023	0.31	0.392
P-683	0.702	1.9912	8.04		0.2272	46	18	1.7754	46	18	0.3237	680.6023	680.2018	0.392	0.391
P-692	1.3671	3.8776	8.04		0.4413	46	16	3.3689	46	16	0.3228	680.2018	677.9321	0.391	0.466
P-693	1.4663	2.71	9.96		0.4409	46	18	2.0744	46	16	0.3007	677.9321	677.3198	0.376	0.783
P-263	1.121	3.1796	8.04		0.2786	46	15	2.5821	46	16	0.2486	690.0429	688.7659	0.348	0.322
P-610	1.2522	3.5516	8.04		0.2785	46	16	2.8434	46	17	0.2224	688.7659	687.4523	0.322	0.317
P-611	1.279	3.6278	8.04		0.2782	46	17	3.0921	0	4	0.2175	687.4523	686.1322	0.317	0.317
P-833	1.4807	4.1999	8.04		0.1519	46	15	2.7035	46	15	0.1026	700.7549	698.295	0.216	0.216
P-835	1.4813	4.2015	8.04		0.1518	46	16	2.7007	46	17	0.1025	698.295	696.0944	0.216	0.216
P-837	1.4882	4.2211	8.04		0.1517	46	17	12.6873	0	4	0.102	696.0944	693.8844	0.216	0.216
P-841	1.4865	4.2162	8.04		0.1516	46	18	2.3823	46	19	0.102	693.8844	690.9397	0.216	0.403
P-844	0.9982	2.8311	8.04		0.3403	46	16	2.5593	46	16	0.3409	690.9397	690.0616	0.403	0.405
P-845	0.9853	2.7947	8.04		0.3401	46	18	2.513	46	18	0.3452	690.0616	689.001	0.405	0.434
P-1996	0.8808	2.4982	8.04		0.34	46	19	2.3369	46	19	0.3861	689.001	688.7801	0.434	0.403
P-864	1.6033	4.5475	8.04		0.34	46	19	5.2194	0	10	0.2121	688.0195	686.675	0.313	0.321
P-872	1.5247	4.3246	8.04		0.34	46	20	3.4805	46	21	0.223	686.675	684.655	0.321	0.321
P-873	2.0906	5.9296	8.04		0.228	46	15	3.3172	46	15	0.1091	686.5593	684.0697	0.223	0.462
P-876	1.3205	3.7453	8.04		0.5657	46	17	3.567	46	18	0.4284	684.0697	682.4189	0.462	0.446
P-881	1.3799	3.9139	8.04		0.5656	46	18	3.7069	46	18	0.4099	682.4189	680.7261	0.446	0.457
P-883	1.3234	3.7536	8.04		0.5655	46	19	3.6039	46	20	0.4273	680.7261	679.2458	0.457	0.456
P-792	0.9153	2.5962	8.04		0.0152	46	16	0.9685	46	17	0.0167	691.2697	689.6721	0.089	0.093
P-788	0.9176	2.6027	8.04		0.0151	46	22	1.8694	0	8	0.0165	689.6721	688.4749	0.093	0.082
P-2328	4.0261	11.4195	8.04		0.0101	46	15	4.2587	0	1	0.0025	692.9441	684.0702	0.036	0.075
P-786	0.9122	2.5873	8.04		0.0319	46	21	0.8883	46	25	0.0349	683.1056	682.1144	0.128	0.38
P-17598	0.8621	2.4452	8.04		0.0052	46	16	0.6192	46	17	0.006	696.879	696.4312	0.058	0.047
P-17599	1.2023	3.4101	8.04		0.0052	46	18	2.0649	0	4	0.0043	696.4312	695.9422	0.047	0.048
P-17600	1.0386	2.9459	8.04		0.0051	46	21	2.5651	0	19	0.005	695.9422	694.7547	0.048	0.067
P-17601	1.0499	2.978	8.04		0.0052	46	16	0.759	46	16	0.0049	695.6421	694.7547	0.048	0.067
P-17602	1.0612	3.0099	8.04		0.0103	46	21	1.2181	0	4	0.0097	694.7547	694.2701	0.067	0.09
P-17604	0.729	2.0677	8.04		0.0102	46	25	1.3937	0	16	0.014	694.2701	693.7435	0.09	0.065
P-783	0.8808	2.4982	8.04		0.0101	46	18	0.7448	46	17	0.0114	684.0702	683.1056	0.075	0.128
P-287	1.4614	4.1449	8.04		0.0969	46	15	2.3398	46	16	0.0663	680.537	677.9362	0.175	0.173
P-1888	1.9056	3.5221	9.96		0.1742	46	16	2.1902	46	16	0.0914	671.5696	670.1913	0.204	0.206
P-1887	1.866	3.4487	9.96		0.174	46	17	2.1577	46	18	0.0932	670.1913	669.2609	0.206	0.206
P-1885	1.396	3.9594	8.04		0	0	0	0	0	0	0	670.11	670.11	0	0
P-1884	1.4066	3.9895	8.04		0	0	0	0	0	0	0	670.11	668.8228	0	0
P-2991	0.8028	2.277	8.04		0	0	0	0	0	0	0	669.568	669.568	0	0
P-600	1.9414	3.5882	9.96		0	0	0	0	0	0	0	672.32	672.32	0	0
P-601	1.8314	3.3849	9.96		0	0	0	0	0	0	0	671.5696	671.5696	0	0
P-1059	11.863	4.9321	21		2.7929	46	25	4.0281	46	25	0.2354	669.568	668.2373	0.33	0.33
P-1060	14.7317	6.1247	21		2.9932	46	24	4.7825	46	24	0.2032	667.7859	667.2217	0.306	0.31
P-1061	14.491	6.0247	21		2.9933	46	24	4.7309	46	25	0.2066	667.2217	666.1827	0.31	0.304
P-1062	14.8742	6.184	21		2.9932	46	25	4.8309	46	26	0.2012	666.1827	664.6516	0.304	0.304
P-1943	0.9226	2.6167	8.04		0.1065	46	15	1.7302	46	15	0.1155	674.6737	673.5325	0.229	0.242
P-1944	0.8643	2.4516	8.04		0.1063	46	17	1.6309	46	17	0.123	673.5325	673.2378	0.242	0.221
P-753	0.9328	2.6456	8.04		0.097	46	15	1.7031	46	15	0.104	675.0258	674.2198	0.218	0.224
P-760	0.9164	2.5994	8.04		0.0966	46	17	1.6536	46	18	0.1054	674.2198	673.2308	0.224	0.21
P-254	2.139	3.9533	9.96		0.2801	46	16	2.7139	46	16	0.1309	668.8228	667.6431	0.244	0.257
P-255	1.9378	3.5815	9.96		0.28	46	17	2.4944	46	18	0.1445	667.6431	666.5641	0.257	0.294
P-242	1.4403	4.0851	8.04		0.1163	46	15	2.4491	46	15	0.0807	679.6187	677.5596	0.192	0.193
P-243	1.4437	4.0947	8.04		0.1162	46	16	2.4346	46	18	0.0805	677.5596	675.5463	0.193	0.189
P-244	1.4967	4.245	8.04		0.116	46	17	3.6456	0	4	0.0775	675.5463	674.0056	0.189	0.188
P-1889	2.5618	4.7348	9.96		0.4827	46	17	3.6322	46	18	0.1884	666.5641	664.964	0.294	0.294
P-1890	2.5618	4.7348	9.96		0.4826	46	18	3.6197	46	18	0.1884	664.964	663.37	0.294	0.301
GATE	Undefnd	Undefnd	Undefn		2.9932	46	25								
GATE	Undefnd	Undefnd	Undefn		0.4826	46	18								

Table 12
5-Year Recurrence Interval Event - Modeling Results - Conveyance Design Conditions
Pipe Summary - South Basin

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-993	689	682.09	681.6099	46	15	0	7.3901	12.566	0	0	0
MH-999	683.01	674.01	672.8738	46	20	0	10.1362	12.566	0	0	0
MH-1001	685.92	679.09	678.5581	46	16	0	7.3619	12.566	0	0	0
MH-2496	685.3	676.26	675.5548	46	20	0	9.7452	12.566	0	0	0
MH-2497	687.62	677.79	677.3865	46	18	0	10.2335	12.566	0	0	0
MH-2499	690.87	679.29	678.8903	46	16	0	11.9797	12.566	0	0	0
MH-2507	691.29	680.46	680.0615	46	15	0	11.2285	12.566	0	0	0
MH-2592	687.8	676.72	676.3433	46	20	0	11.4567	12.566	0	0	0
MH-2594	691.34	678.34	677.2749	46	19	0	14.0651	12.566	0	0	0
MH-2598	693.94	680.53	680.0925	46	17	0	13.8475	12.566	0	0	0
MH-2599	692.41	682.41	681.9871	46	15	0	10.4229	12.566	0	0	0
MH-2610	692.87	684.29	683.8625	46	15	0	9.0075	12.566	0	0	0
MH-2630	694	678.4533	678.1183	46	19	0	15.8817	12.566	0	0	0
MH-2631	697.74	686.59	678.9957	46	19	0	18.7443	12.566	0	0	0
MH-2645	683.5	674.92	674.4945	46	20	0	9.0055	12.566	0	0	0
MH-2707	696.91	687.91	687.4737	46	17	0	9.4363	12.566	0	0	0
MH-2709	696.97	689.22	688.7876	46	16	0	8.1824	12.566	0	0	0
MH-2743	697.98	690.48	690.0667	46	15	0	7.9133	12.566	0	0	0
MH-2831	685.54	678.45	677.9648	46	18	0	7.5752	12.566	0	0	0
MH-2833	687.69	680.61	680.2295	46	16	0	7.4605	12.566	0	0	0
MH-2835	689.67	681.01	680.6302	46	18	0	9.0398	12.566	0	0	0
MH-2836	690.3	681.97	681.5288	46	16	0	8.7712	12.566	0	0	0
MH-2839	686.55	676.55	675.9477	46	16	0	10.6023	12.566	0	0	0
MH-2840	683.76	677.17	676.5716	46	15	0	7.1884	12.566	0	0	0
MH-2895	690.15	682.49	682.0796	46	15	0	8.0704	12.566	0	0	0
MH-2898	695.43	687.6	687.0802	46	15	0	8.3498	12.566	0	0	0
MH-2920	694.86	691.09	682.1411	46	15	0	12.7189	12.566	0	0	0
MH-2921	696.85	689.09	683.1134	46	20	0	13.7366	12.566	0	0	0
MH-2922	702.44	690.28	689.6778	46	21	0	12.7622	12.566	0	0	0
MH-2933	692.47	684.69	684.0749	46	17	0	8.3951	12.566	0	0	0
MH-2939	705.43	695.09	694.4814	46	16	0	10.9486	12.566	0	0	0
MH-2960	699.96	691.88	691.2753	46	16	0	8.6847	12.566	0	0	0
MH-2975	698	680.0467	679.6555	46	20	0	18.3445	12.566	0	0	0
MH-2976	698.01	680.9267	680.5343	46	19	0	17.4757	12.566	0	0	0
MH-2978	698.89	681.7267	681.3348	46	17	0	17.5552	12.566	0	0	0
MH-3072	698.54	689.38	689.032	46	19	0	9.508	12.566	0	0	0
MH-3073	700.04	690.46	690.0907	46	18	0	9.9493	12.566	0	0	0
MH-3074	702.25	691.34	690.9686	46	16	0	11.2814	12.566	0	0	0
MH-3075	706.07	694.41	693.8982	46	18	0	12.1718	12.566	0	0	0
MH-3076	709.37	696.62	696.1083	46	17	0	13.2617	12.566	0	0	0
MH-3078	710	698.82	698.3089	46	16	0	11.6911	12.566	0	0	0
MH-3079	708.94	701.28	700.7687	46	15	0	8.1713	12.566	0	0	0
MH-3080	693.25	681.09	680.7603	46	19	0	12.4897	12.566	0	0	0
MH-3081	690.5	682.79	682.452	46	18	0	8.048	12.566	0	0	0
MH-3082	694.34	685.11	684.1043	46	16	0	10.2357	12.566	0	0	0
MH-3083	695.83	687.08	686.5737	46	15	0	9.2563	12.566	0	0	0
MH-3086	697.88	687.13	686.6967	46	20	0	11.1833	12.566	0	0	0
MH-3087	698.06	689.18	688.0405	46	19	0	10.0195	12.566	0	0	0
MH-3200	681.42	672.85	671.712	46	21	0	9.708	12.566	0	0	0
MH-3204	685.4	672.26	669.6287	46	23	0	15.7713	12.566	0	0	0
MH-3207	684.51	671.75	670.3676	46	22	0	14.1424	12.566	0	0	0
MH-4634	701.25	693.59	692.947	46	15	0	8.303	12.566	0	0	0
MH-16260	705.51	694.88	694.2751	46	25	0	11.2349	12.566	0	0	0
MH-16261	706.26	695.38	694.7605	46	21	0	11.4995	12.566	0	0	0
MH-16262	705.11	696.28	695.6447	46	16	0	9.4653	12.566	0	0	0
MH-16263	706.02	696.58	695.9448	46	20	0	10.0752	12.566	0	0	0
MH-16264	706.73	697.07	696.4339	46	18	0	10.2961	12.566	0	0	0
MH-16265	707.89	697.51	696.8826	46	16	0	11.0074	12.566	0	0	0
MH-16266	706.71	694.37	691.7446	46	21	0	14.9654	12.566	0	0	0
MH-635	676.2	669.92	668.8424	46	16	0	7.3576	12.566	0	0	0
MH-1005	682.65	678.49	671.5856	46	15	0	11.0644	12.566	0	0	0
MH-1006	689.42	681.09	680.5479	46	15	0	8.8721	12.566	0	0	0
MH-2646	683.4	673.15	672.32	0	0	0	11.08	12.566	0	0	0
MH-4319	679	670.79	670.11	0	0	0	8.89	12.566	0	0	0
MH-4320	683	672.44	671.59	0	0	0	11.41	12.566	0	0	0
MH-4321	677.62	670.85	670.2076	46	17	0	7.4124	12.566	0	0	0
MH-604	685.1	674.55	666.5883	46	17	0	18.5117	12.566	0	0	0
MH-634	679	668.26	667.6639	46	17	0	11.3361	12.566	0	0	0
MH-2841	678	673.76	667.8415	46	22	0	10.1585	12.566	0	0	0
MH-2842	679.5	674.74	674.2339	46	17	0	5.2661	12.566	0	0	0
MH-2843	682.25	675.55	675.0398	46	15	0	7.2102	12.566	0	0	0
MH-3208	680	665.87	664.4668	46	24	0	15.5332	12.566	0	0	0
MH-3209	679	667.4	666.2377	46	24	0	12.7623	12.566	0	0	0
MH-3210	678	668.43	667.2777	46	23	0	10.7223	12.566	0	0	0
MH-4343	678	674.04	673.5477	46	17	0	4.4523	12.566	0	0	0
MH-4344	684.5	675.19	674.6884	46	15	0	9.8116	12.566	0	0	0
MH-602	675.4	663.95	663.3882	46	18	0	12.0118	12.566	0	0	0
MH-603	680	665.55	664.9884	46	18	0	15.0116	12.566	0	0	0
MH-621	687.5	676.09	675.5582	46	17	0	11.9418	12.566	0	0	0
MH-622	690	678.1	677.5719	46	16	0	12.4281	12.566	0	0	0
MH-624	690	680.16	679.6308	46	15	0	10.3692	12.566	0	0	0

Table 12
5-Year Recurrence Interval Event - Modeling Results - Conveyance Design Conditions
Pipe Summary - South Basin

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends Upstream (ft)	Maximum Water Elevation at Pipe Ends Downstream (ft)	Ratio d/D US	Ratio d/D DS
P-795	1.0234	2.9026	8.04	0.0173	46	17	1.066	46	17	0.0169	694.4814	693.1782	0.092	0.087
P-796	0.9213	2.6131	8.04	0.0294	46	22	1.1488	46	22	0.0319	691.7446	690.4966	0.126	0.114
P-797	0.8878	2.5434	8	0.3251	46	16	2.3323	46	17	0.3662	682.1411	681.3348	0.422	0.412
P-798	0.9147	2.6205	8	0.325	46	18	2.3964	46	19	0.3553	681.3348	680.5343	0.412	0.411
P-799	0.9158	2.6236	8	0.3249	46	19	2.3981	46	19	0.3547	680.5343	679.6555	0.411	0.413
P-800	0.9085	2.6023	8.0004	0.3246	46	20	2.4288	0	15	0.3574	679.6555	678.9957	0.413	0.758
P-587	1.9652	3.6035	9.9996	1.3365	46	19	3.8674	46	20	0.6801	678.9957	678.1183	0.607	0.598
P-589	2.0335	3.7287	9.9996	1.3365	46	20	3.8341	46	20	0.6572	678.1183	677.2749	0.598	0.726
P-591	3.3179	4.2244	12	2.2432	46	19	4.5001	46	20	0.6761	677.2749	676.3433	0.605	0.623
P-592	3.2473	4.1345	12	2.2431	46	20	4.266	46	21	0.6908	676.3433	675.5548	0.623	0.745
P-594	3.1829	4.0526	12	2.8626	46	20	4.6253	46	21	0.8994	675.5548	674.4945	0.755	0.575
P-596	4.5686	5.817	12	2.8626	46	20	6.0813	46	21	0.6266	674.4945	672.8738	0.575	0.614
P-1055	12.484	5.1902	21	3.2943	46	21	4.377	46	22	0.2639	672.8738	671.7131	0.351	0.35
P-1056	12.1716	5.0604	21	3.2942	46	22	4.2987	46	22	0.2707	671.712	670.6216	0.355	0.355
P-1057	12.7218	5.2891	21	3.2943	46	22	4.4374	46	23	0.259	670.3676	669.6469	0.347	0.347
P-281	1.5457	4.3841	8.04	0.2279	46	15	2.8759	46	16	0.1474	681.6099	678.5581	0.283	0.206
P-282	2.4502	6.9497	8.04	0.2277	46	16	4.3436	46	16	0.0929	678.5581	673.1977	0.206	0.206
P-525	1.1042	3.1318	8.04	0.38	46	15	2.8382	46	16	0.3441	680.0615	678.8903	0.405	0.403
P-536	1.1188	3.1733	8.04	0.3797	46	16	2.8572	46	18	0.3393	678.8903	677.3865	0.403	0.398
P-538	1.1367	3.2242	8.04	0.3791	46	18	2.9	46	18	0.3335	677.3865	675.8564	0.398	0.398
P-739	1.4445	2.6698	9.96	0.2431	46	15	1.976	46	16	0.1683	676.5716	675.9477	0.279	0.274
P-737	1.4754	2.7268	9.96	0.2428	46	16	1.7101	46	16	0.1646	675.9477	675.5548	0.274	0.596
P-565	1.3565	3.8475	8.04	0.3799	46	15	3.2915	46	15	0.2801	683.8625	681.9871	0.362	0.369
P-569	1.3565	3.8475	8.04	0.3797	46	16	3.2419	46	17	0.2799	681.9871	680.0925	0.369	0.347
P-571	1.4675	4.1623	8.04	0.3793	46	17	4.4619	0	4	0.2585	680.0925	677.9021	0.347	0.346
P-766	2.4801	7.0346	8.04	0.2736	46	15	4.1544	46	15	0.1103	687.0802	682.0796	0.224	0.387
P-768	0.9118	2.5862	8.04	0.2733	46	16	2.1999	46	16	0.2997	682.0796	681.5288	0.387	0.342
P-681	1.0876	3.0847	8.04	0.2731	46	16	6.4102	0	4	0.2511	681.5288	680.6302	0.342	0.433
P-683	0.702	1.9912	8.04	0.2727	46	18	1.8646	46	18	0.3885	680.6302	680.2295	0.433	0.432
P-692	1.3671	3.8776	8.04	0.5296	46	16	3.5404	46	16	0.3874	680.2295	677.9648	0.432	0.515
P-693	1.4663	2.71	9.96	0.5292	46	18	2.2661	46	17	0.3609	677.9648	677.2749	0.415	0.729
P-263	1.121	3.1796	8.04	0.3343	46	15	2.7171	46	16	0.2982	690.0667	688.7876	0.383	0.355
P-610	1.2522	3.5516	8.04	0.3342	46	16	2.9922	46	17	0.2669	688.7876	687.4737	0.355	0.349
P-611	1.279	3.6278	8.04	0.3339	46	17	3.0921	0	4	0.261	687.4737	686.1533	0.349	0.348
P-833	1.4807	4.1999	8.04	0.1823	46	15	2.8531	46	15	0.1231	700.7687	698.3088	0.237	0.237
P-835	1.4813	4.2015	8.04	0.1821	46	16	2.8502	46	17	0.123	698.3089	696.1083	0.237	0.236
P-837	1.4882	4.2211	8.04	0.1821	46	17	12.6873	0	4	0.1223	696.1083	693.8982	0.236	0.236
P-841	1.4865	4.2162	8.04	0.1819	46	18	2.5112	46	19	0.1224	693.8982	690.9686	0.236	0.446
P-844	0.9982	2.8311	8.04	0.4084	46	16	2.6862	46	16	0.4091	690.9686	690.0907	0.446	0.449
P-845	0.9853	2.7947	8.04	0.4082	46	18	2.638	46	18	0.4143	690.0907	689.032	0.449	0.481
P-1996	0.8808	2.4982	8.04	0.4081	46	19	2.4598	46	19	0.4633	689.032	688.8072	0.481	0.444
P-864	1.6033	4.5475	8.04	0.4081	46	19	5.2194	0	10	0.2545	688.0405	686.6967	0.344	0.353
P-872	1.5247	4.3246	8.04	0.408	46	20	3.661	46	21	0.2676	686.6967	684.6765	0.353	0.353
P-873	2.0906	5.9296	8.04	0.2736	46	15	3.4942	46	15	0.1309	686.5737	684.1043	0.244	0.514
P-876	1.3205	3.7453	8.04	0.679	46	17	3.7375	46	18	0.5142	684.1043	682.452	0.514	0.495
P-881	1.3799	3.9139	8.04	0.6789	46	18	3.8835	46	17	0.492	682.452	680.7603	0.495	0.508
P-883	1.3234	3.7536	8.04	0.6788	46	19	3.7748	46	20	0.5129	680.7603	679.2801	0.508	0.508
P-792	0.9153	2.5962	8.04	0.0183	46	16	1.0172	46	16	0.02	691.2753	689.6778	0.097	0.101
P-788	0.9176	2.6027	8.04	0.0182	46	21	1.8694	0	8	0.0198	689.6778	688.4795	0.101	0.089
P-2328	4.0261	11.4195	8.04	0.0122	46	15	4.2587	0	1	0.003	692.947	684.0749	0.04	0.082
P-786	0.9122	2.5873	8.04	0.0383	46	20	0.9361	46	25	0.042	683.1134	682.1411	0.139	0.42
P-17598	0.8621	2.4452	8.04	0.0062	46	16	0.6553	46	17	0.0072	696.8826	696.4339	0.064	0.051
P-17599	1.2023	3.4101	8.04	0.0062	46	18	2.0649	0	4	0.0051	696.4339	695.9448	0.051	0.052
P-17600	1.0386	2.9459	8.04	0.0062	46	20	2.5651	0	19	0.0059	695.9448	694.7605	0.052	0.075
P-17601	1.0499	2.978	8.04	0.0062	46	16	0.8002	46	16	0.0059	695.6447	694.7605	0.052	0.075
P-17602	1.0612	3.0099	8.04	0.0123	46	21	1.2181	0	4	0.0116	694.7605	694.2751	0.075	0.097
P-17604	0.729	2.0677	8.04	0.0122	46	25	1.3937	0	16	0.0168	694.2751	693.7486	0.097	0.072
P-783	0.8808	2.4982	8.04	0.0121	46	17	0.7893	46	17	0.0138	684.0749	683.1134	0.082	0.139
P-287	1.4614	4.1449	8.04	0.1163	46	16	2.4723	46	16	0.0796	680.5479	677.9473	0.191	0.19
P-1888	1.9056	3.5221	9.96	0.2091	46	16	2.3087	46	16	0.1097	671.5856	670.2076	0.224	0.226
P-1887	1.866	3.4487	9.96	0.2088	46	17	2.2742	46	18	0.1119	670.2076	669.2769	0.226	0.225
P-1885	1.396	3.9594	8.04	0	0	0	0	0	0	0	670.11	670.11	0	0
P-1884	1.4066	3.9895	8.04	0	0	0	0	0	0	0	670.11	668.8424	0	0
P-2991	0.8028	2.277	8.04	0	0	0	0	0	0	0	669.6287	669.6287	0	0
P-600	1.9414	3.5882	9.96	0	0	0	0	0	0	0	672.32	672.32	0	0
P-601	1.8314	3.3849	9.96	0	0	0	0	0	0	0	671.5856	671.5856	0	0
P-1059	11.863	4.9321	21	3.3738	46	23	4.2473	46	24	0.2844	669.6287	668.2983	0.365	0.365
P-1060	14.7317	6.1247	21	3.6147	46	23	5.0418	46	24	0.2454	667.8415	667.2777	0.338	0.342
P-1061	14.491	6.0247	21	3.6149	46	23	4.9903	46	24	0.2495	667.2777	666.2377	0.342	0.336
P-1062	14.8742	6.184	21	3.6147	46	24	5.0953	46	25	0.243	666.2377	664.7068	0.336	0.335
P-1943	0.9226	2.6167	8.04	0.1279	46	15	1.8246	46	15	0.1386	674.6884	673.5477	0.251	0.265
P-1944	0.8643	2.4516	8.04	0.1276	46	17	1.7226	46	17	0.1477	673.5477	673.2528	0.265	0.243
P-753	0.9328	2.6456	8.04	0.1164	46	15	1.7979	46	15	0.1247	675.0398	674.2339	0.238	0.245
P-760	0.9164	2.5994	8.04	0.116	46	17	1.7476	46	17	0.1266	674.2339	673.2447	0.245	0.231
P-254	2.139	3.9533	9.96	0.3362	46	16	2.8593	46	16	0.1572	668.8424	667.6639	0.268	0.282
P-255	1.9378	3.5815	9.96	0.336	46	17	2.6296	46	17	0.1734	667.6639	666.5883	0.282	0.323
P-242	1.4403	4.0851	8.04	0.1396	46	15	2.5837	46	15	0.0969	679.6308	677.5719	0.21	0.212
P-243	1.4437	4.0947	8.04	0.1394	46	16	2.5676	46	17	0.0966	677.5719	675.5582	0.212	0.206
P-244	1.4967	4.245	8.04	0.1393	46	17	3.6456	0	4	0.0931	675.5582	674.0178	0.206	0.206
P-1889	2.5618	4.7348	9.96	0.5793	46	17	3.8256	46	17	0.2261	666.5883	664.9884	0.323	0.323
P-1890	2.5618	4.7348	9.96	0.5793	46	18	3.825	46	18	0.2261	664.9884	663.3882	0.323	0.323
GATE	Undefnd	Undefnd	Undefn	3.6147	46	24								
GATE	Undefnd	Undefnd	Undefn	0.5793	46	18								

Table 13
10-Year Recurrence Interval Event - Model Results - Conveyance Design Conditions
Pipe Summary - South Basin

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-993	689	682.09	681.6213	46	15	0	7.3787	12.566	0	0	0
MH-999	683.01	674.01	672.9126	46	20	0	10.0974	12.566	0	0	0
MH-1001	685.92	679.09	678.5662	46	16	0	7.3538	12.566	0	0	0
MH-2496	685.3	676.26	675.628	46	20	0	9.672	12.566	0	0	0
MH-2497	687.62	677.79	677.4041	46	17	0	10.2159	12.566	0	0	0
MH-2499	690.87	679.29	678.9081	46	16	0	11.9619	12.566	0	0	0
MH-2507	691.29	680.46	680.0795	46	15	0	11.2105	12.566	0	0	0
MH-2592	687.8	676.72	676.3994	46	20	0	11.4006	12.566	0	0	0
MH-2594	691.34	678.34	677.3252	46	19	0	14.0148	12.566	0	0	0
MH-2598	693.94	680.53	680.1071	46	17	0	13.8329	12.566	0	0	0
MH-2599	692.41	682.41	682.0029	46	15	0	10.4071	12.566	0	0	0
MH-2610	692.87	684.29	683.878	46	15	0	8.992	12.566	0	0	0
MH-2630	694	678.4533	678.1606	46	19	0	15.8394	12.566	0	0	0
MH-2631	697.74	686.59	679.0364	46	19	0	18.7036	12.566	0	0	0
MH-2645	683.5	674.92	674.5396	46	20	0	8.9604	12.566	0	0	0
MH-2707	696.91	687.91	687.4884	46	17	0	9.4216	12.566	0	0	0
MH-2709	696.97	689.22	688.8026	46	16	0	8.1674	12.566	0	0	0
MH-2743	697.98	690.48	690.0832	46	15	0	7.8968	12.566	0	0	0
MH-2831	685.54	678.45	677.9882	46	18	0	7.5518	12.566	0	0	0
MH-2833	687.69	680.61	680.249	46	16	0	7.441	12.566	0	0	0
MH-2835	689.67	681.01	680.6497	46	18	0	9.0203	12.566	0	0	0
MH-2836	690.3	681.97	681.5432	46	16	0	8.7568	12.566	0	0	0
MH-2839	686.55	676.55	675.9615	46	16	0	10.5885	12.566	0	0	0
MH-2840	683.76	677.17	676.5856	46	15	0	7.1744	12.566	0	0	0
MH-2895	690.15	682.49	682.0961	46	15	0	8.0539	12.566	0	0	0
MH-2898	695.43	687.6	687.0891	46	15	0	8.3409	12.566	0	0	0
MH-2920	694.86	691.09	682.1598	46	15	0	12.7002	12.566	0	0	0
MH-2921	696.85	689.09	683.1188	46	20	0	13.7312	12.566	0	0	0
MH-2922	702.44	690.28	689.6816	46	21	0	12.7584	12.566	0	0	0
MH-2933	692.47	684.69	684.0779	46	17	0	8.3921	12.566	0	0	0
MH-2939	705.43	695.09	694.4849	46	16	0	10.9451	12.566	0	0	0
MH-2960	699.96	691.88	691.279	46	16	0	8.681	12.566	0	0	0
MH-2975	698	680.0467	679.6737	46	20	0	18.3263	12.566	0	0	0
MH-2976	698.01	680.9267	680.5524	46	18	0	17.4576	12.566	0	0	0
MH-2978	698.89	681.7267	681.3529	46	17	0	17.5371	12.566	0	0	0
MH-3072	698.54	689.38	689.0539	46	19	0	9.4861	12.566	0	0	0
MH-3073	700.04	690.46	690.1111	46	18	0	9.9289	12.566	0	0	0
MH-3074	702.25	691.34	690.9888	46	16	0	11.2612	12.566	0	0	0
MH-3075	706.07	694.41	693.9077	46	18	0	12.1623	12.566	0	0	0
MH-3076	709.37	696.62	696.1177	46	17	0	13.2523	12.566	0	0	0
MH-3078	710	698.82	698.3183	46	16	0	11.6817	12.566	0	0	0
MH-3079	708.94	701.28	700.7781	46	15	0	8.1619	12.566	0	0	0
MH-3080	693.25	681.09	680.7848	46	19	0	12.4652	12.566	0	0	0
MH-3081	690.5	682.79	682.4756	46	18	0	8.0244	12.566	0	0	0
MH-3082	694.34	685.11	684.1291	46	16	0	10.2109	12.566	0	0	0
MH-3083	695.83	687.08	686.5834	46	15	0	9.2466	12.566	0	0	0
MH-3086	697.88	687.13	686.7119	46	20	0	11.1681	12.566	0	0	0
MH-3087	698.06	689.18	688.0551	46	19	0	10.0049	12.566	0	0	0
MH-3200	681.42	672.85	671.7516	46	21	0	9.6684	12.566	0	0	0
MH-3204	685.4	672.26	669.6696	46	23	0	15.7304	12.566	0	0	0
MH-3207	684.51	671.75	670.4059	46	22	0	14.1041	12.566	0	0	0
MH-4634	701.25	693.59	692.9483	46	15	0	8.3017	12.566	0	0	0
MH-16260	705.51	694.88	694.2784	46	25	0	11.2316	12.566	0	0	0
MH-16261	706.26	695.38	694.7635	46	21	0	11.4965	12.566	0	0	0
MH-16262	705.11	696.28	695.6482	46	16	0	9.4618	12.566	0	0	0
MH-16263	706.02	696.58	695.9483	46	20	0	10.0717	12.566	0	0	0
MH-16264	706.73	697.07	696.4356	46	18	0	10.2944	12.566	0	0	0
MH-16265	707.89	697.51	696.8851	46	16	0	11.0049	12.566	0	0	0
MH-16266	706.71	694.37	691.7491	46	22	0	14.9609	12.566	0	0	0
MH-635	676.2	669.92	668.8559	46	16	0	7.3441	12.566	0	0	0
MH-1005	682.65	678.49	671.5966	46	15	0	11.0534	12.566	0	0	0
MH-1006	689.42	681.09	680.5553	46	15	0	8.8647	12.566	0	0	0
MH-2646	683.4	673.15	672.32	0	0	0	11.08	12.566	0	0	0
MH-4319	679	670.79	670.11	0	0	0	8.89	12.566	0	0	0
MH-4320	683	672.44	671.59	0	0	0	11.41	12.566	0	0	0
MH-4321	677.62	670.85	670.2186	46	17	0	7.4014	12.566	0	0	0
MH-604	685.1	674.55	666.605	46	17	0	18.495	12.566	0	0	0
MH-634	679	668.26	667.6782	46	17	0	11.3218	12.566	0	0	0
MH-2841	678	673.76	667.8787	46	23	0	10.1213	12.566	0	0	0
MH-2842	679.5	674.74	674.2435	46	17	0	5.2565	12.566	0	0	0
MH-2843	682.25	675.55	675.0493	46	15	0	7.2007	12.566	0	0	0
MH-3208	680	665.87	664.5041	46	24	0	15.4959	12.566	0	0	0
MH-3209	679	667.4	666.2744	46	24	0	12.7256	12.566	0	0	0
MH-3210	678	668.43	667.3151	46	23	0	10.6849	12.566	0	0	0
MH-4343	678	674.04	673.5584	46	17	0	4.4416	12.566	0	0	0
MH-4344	684.5	675.19	674.6986	46	15	0	9.8014	12.566	0	0	0
MH-602	675.4	663.95	663.4047	46	18	0	11.9953	12.566	0	0	0
MH-603	680	665.55	665.0052	46	18	0	14.9948	12.566	0	0	0
MH-621	687.5	676.09	675.5664	46	17	0	11.9336	12.566	0	0	0
MH-622	690	678.1	677.5802	46	16	0	12.4198	12.566	0	0	0
MH-624	690	680.16	679.6391	46	15	0	10.3609	12.566	0	0	0

Table 13
10-Year Recurrence Interval Event - Model Results - Conveyance Design Conditions
Pipe Summary - South Basin

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends Upstream (ft)	Maximum Water Elevation at Pipe Ends Downstream (ft)	Ratio d/D US	Ratio d/D DS
P-795	1.0234	2.9026	8.04	0.0194	46	16	1.1032	46	17	0.0189	694.4849	693.1814	0.097	0.092
P-796	0.9213	2.6131	8.04	0.033	46	22	1.1923	46	22	0.0358	691.7491	690.5015	0.133	0.122
P-797	0.8878	2.5434	8	0.3648	46	16	2.4052	46	17	0.4109	682.1598	681.3529	0.45	0.439
P-798	0.9147	2.6205	8	0.3647	46	17	2.4715	46	19	0.3987	681.3529	680.5524	0.439	0.439
P-799	0.9158	2.6236	8	0.3645	46	19	2.4731	46	19	0.398	680.5524	679.6737	0.439	0.441
P-800	0.9085	2.6023	8.0004	0.3643	46	20	2.4288	0	15	0.401	679.6737	679.0364	0.441	0.819
P-587	1.9652	3.6035	9.9996	1.4997	46	19	3.9634	46	20	0.7631	679.0364	678.1606	0.656	0.649
P-589	2.0335	3.7287	9.9996	1.4996	46	20	3.9169	46	21	0.7374	678.1606	677.3252	0.649	0.786
P-591	3.3179	4.2244	12	2.5168	46	19	4.5969	46	20	0.7586	677.3252	676.3994	0.655	0.679
P-592	3.2473	4.1345	12	2.5167	46	20	4.3389	46	21	0.775	676.3994	675.628	0.679	0.818
P-594	3.1829	4.0526	12	3.2114	46	20	4.7464	46	21	1.0089	675.628	674.5396	0.828	0.62
P-596	4.5686	5.817	12	3.2114	46	20	6.2456	46	21	0.7029	674.5396	672.9126	0.62	0.653
P-1055	12.484	5.1902	21	3.6956	46	21	4.5179	46	22	0.296	672.9126	671.7519	0.373	0.373
P-1056	12.1716	5.0604	21	3.6955	46	22	4.4351	46	23	0.3036	671.7516	670.6608	0.378	0.378
P-1057	12.7218	5.2891	21	3.6956	46	22	4.5813	46	23	0.2905	670.4059	669.6854	0.369	0.369
P-281	1.5457	4.3841	8.04	0.2556	46	15	2.9725	46	16	0.1654	681.6213	678.5662	0.301	0.218
P-282	2.4502	6.9497	8.04	0.2554	46	16	4.4866	46	16	0.1042	678.5662	673.2056	0.218	0.217
P-525	1.1042	3.1318	8.04	0.4263	46	15	2.9262	46	16	0.3861	680.0795	678.9081	0.432	0.43
P-536	1.1188	3.1733	8.04	0.4259	46	16	2.9462	46	18	0.3807	678.9081	677.4041	0.43	0.424
P-538	1.1367	3.2242	8.04	0.4253	46	18	2.9893	46	18	0.3741	677.4041	675.8738	0.424	0.424
P-739	1.4445	2.6698	9.96	0.2728	46	15	2.0409	46	16	0.1888	676.5856	675.9615	0.296	0.291
P-737	1.4754	2.7268	9.96	0.2724	46	16	1.7367	45	45	0.1846	675.9615	675.628	0.291	0.684
P-565	1.3565	3.8475	8.04	0.4262	46	15	3.3958	46	15	0.3142	683.878	682.0029	0.385	0.392
P-569	1.3565	3.8475	8.04	0.4259	46	16	3.3463	46	17	0.314	682.0029	680.1071	0.392	0.369
P-571	1.4675	4.1623	8.04	0.4255	46	17	4.4619	0	4	0.29	680.1071	677.9169	0.369	0.368
P-766	2.4801	7.0346	8.04	0.3069	46	15	4.2976	46	15	0.1238	687.0891	682.0961	0.238	0.412
P-768	0.9118	2.5862	8.04	0.3066	46	16	2.2731	46	16	0.3362	682.0961	681.5432	0.412	0.363
P-681	1.0876	3.0847	8.04	0.3064	46	16	6.4102	0	4	0.2817	681.5432	680.6497	0.363	0.462
P-683	0.702	1.9912	8.04	0.306	46	18	1.9214	46	18	0.4359	680.6497	680.249	0.462	0.461
P-692	1.3671	3.8776	8.04	0.5942	46	16	3.6496	46	15	0.4347	680.249	677.9882	0.461	0.55
P-693	1.4663	2.71	9.96	0.5937	46	18	2.3344	46	17	0.4049	677.9882	677.3252	0.444	0.789
P-263	1.121	3.1796	8.04	0.3751	46	15	2.8049	46	16	0.3346	690.0832	688.8026	0.408	0.377
P-610	1.2522	3.5516	8.04	0.3749	46	16	3.0881	46	17	0.2994	688.8026	687.4884	0.377	0.371
P-611	1.279	3.6278	8.04	0.3746	46	17	3.1483	46	18	0.2929	687.4884	686.1682	0.371	0.37
P-833	1.4807	4.1999	8.04	0.2045	46	15	2.9483	46	15	0.1381	700.7781	698.3183	0.251	0.251
P-835	1.4813	4.2015	8.04	0.2044	46	16	2.9454	46	17	0.138	698.3183	696.1177	0.251	0.25
P-837	1.4882	4.2211	8.04	0.2043	46	17	12.6873	0	4	0.1373	696.1177	693.9077	0.25	0.25
P-841	1.4865	4.2162	8.04	0.2041	46	18	2.5937	46	19	0.1373	693.9077	690.9888	0.25	0.476
P-844	0.9982	2.8311	8.04	0.4583	46	16	2.7684	46	16	0.4592	690.9888	690.1111	0.476	0.479
P-845	0.9853	2.7947	8.04	0.4581	46	18	2.7187	46	18	0.4649	690.1111	689.0539	0.479	0.513
P-1996	0.8808	2.4982	8.04	0.458	46	19	2.5399	46	19	0.52	689.0539	688.8255	0.513	0.471
P-864	1.6033	4.5475	8.04	0.458	46	19	5.2194	0	10	0.2857	688.0551	686.7119	0.366	0.376
P-872	1.5247	4.3246	8.04	0.4579	46	20	3.7781	46	20	0.3003	686.7119	684.6915	0.376	0.375
P-873	2.0906	5.9296	8.04	0.3069	46	15	3.6061	46	15	0.1468	686.5834	684.1291	0.259	0.551
P-876	1.3205	3.7453	8.04	0.7619	46	17	3.8452	46	18	0.577	684.1291	682.4756	0.551	0.531
P-881	1.3799	3.9139	8.04	0.7618	46	18	3.9952	46	18	0.5521	682.4756	680.7848	0.531	0.544
P-883	1.3234	3.7536	8.04	0.7617	46	19	3.8823	46	20	0.5756	680.7848	679.3046	0.544	0.544
P-792	0.9153	2.5962	8.04	0.0205	46	16	1.0535	46	16	0.0224	691.279	689.6816	0.103	0.107
P-788	0.9176	2.6027	8.04	0.0204	46	21	1.8694	0	8	0.0222	689.6816	688.4829	0.107	0.094
P-2328	4.0261	11.4195	8.04	0.0137	46	15	4.2587	0	1	0.0034	692.9483	684.0779	0.042	0.086
P-786	0.9122	2.5873	8.04	0.043	46	20	0.9681	46	25	0.0471	683.1188	682.1598	0.147	0.447
P-17598	0.8621	2.4452	8.04	0.0069	46	16	0.6789	46	17	0.008	696.8851	696.4356	0.067	0.053
P-17599	1.2023	3.4101	8.04	0.0069	46	18	2.0649	0	4	0.0058	696.4356	695.9483	0.053	0.057
P-17600	1.0386	2.9459	8.04	0.0069	46	20	2.5651	0	19	0.0066	695.9483	694.7635	0.057	0.08
P-17601	1.0499	2.978	8.04	0.0069	46	16	0.7864	46	16	0.0066	695.6482	694.7635	0.057	0.08
P-17602	1.0612	3.0099	8.04	0.0138	46	21	1.2181	0	4	0.013	694.7635	694.2784	0.08	0.102
P-17604	0.729	2.0677	8.04	0.0137	46	25	1.3937	0	16	0.0188	694.2784	693.7523	0.102	0.078
P-783	0.8808	2.4982	8.04	0.0136	46	17	0.816	46	17	0.0154	684.0779	683.1188	0.086	0.147
P-287	1.4614	4.1449	8.04	0.1304	46	15	2.5628	46	16	0.0892	680.5553	677.9552	0.202	0.202
P-1888	1.9056	3.5221	9.96	0.2346	46	16	2.3894	46	15	0.1231	671.5966	670.2186	0.237	0.239
P-1887	1.866	3.4487	9.96	0.2343	46	17	2.3565	46	18	0.1256	670.2186	669.2886	0.239	0.239
P-1885	1.396	3.9594	8.04	0	0	0	0	0	0	0	670.11	670.11	0	0
P-1884	1.4066	3.9895	8.04	0	0	0	0	0	0	0	670.11	668.8559	0	0
P-2991	0.8028	2.277	8.04	0	0	0	0	0	0	0	669.6696	669.6696	0	0
P-600	1.9414	3.5882	9.96	0	0	0	0	0	0	0	672.32	672.32	0	0
P-601	1.8314	3.3849	9.96	0	0	0	0	0	0	0	671.5966	671.5966	0	0
P-1059	11.863	4.9321	21	3.7848	46	23	4.3816	46	24	0.319	669.6696	668.3389	0.388	0.388
P-1060	14.7317	6.1247	21	4.0551	46	23	5.2071	46	23	0.2753	667.8787	667.3151	0.359	0.363
P-1061	14.491	6.0247	21	4.0553	46	23	5.1555	46	24	0.2798	667.3151	666.2744	0.363	0.357
P-1062	14.8742	6.184	21	4.0551	46	24	5.2641	46	25	0.2726	666.2744	664.7441	0.357	0.357
P-1943	0.9226	2.6167	8.04	0.1434	46	15	1.886	46	15	0.1555	674.6985	673.5584	0.266	0.281
P-1944	0.8643	2.4516	8.04	0.1432	46	17	1.7827	46	17	0.1657	673.5584	673.2623	0.281	0.257
P-753	0.9328	2.6456	8.04	0.1305	46	15	1.8577	46	15	0.1399	675.0493	674.2435	0.253	0.259
P-760	0.9164	2.5994	8.04	0.1301	46	17	1.8078	46	18	0.142	674.2435	673.2543	0.259	0.245
P-254	2.139	3.9533	9.96	0.3772	46	16	2.9556	46	16	0.1763	668.8559	667.6782	0.284	0.299
P-255	1.9378	3.5815	9.96	0.3771	46	17	2.7154	46	17	0.1946	667.6782	666.605	0.299	0.343
P-242	1.4403	4.0851	8.04	0.1566	46	15	2.6718	46	15	0.1087	679.6391	677.5802	0.223	0.224
P-243	1.4437	4.0947	8.04	0.1564	46	16	2.656	46	17	0.1084	677.5802	675.5664	0.224	0.218
P-244	1.4967	4.245	8.04	0.1563	46	17	3.6456	0	4	0.1044	675.5664	674.0257	0.218	0.217
P-1889	2.5618	4.7348	9.96	0.65	46	17	3.9495	46	17	0.2537	666.605	665.0052	0.343	0.344
P-1890	2.5618	4.7348	9.96	0.65	46	18	3.9478	46	18	0.2537	665.0052	663.4047	0.344	0.343
GATE	Undefnd	Undefnd	Undefn	4.0551	46	24								
GATE	Undefnd	Undefnd	Undefn	0.65	46	18								

Table 14
25-Year Recurrence Interval Event - Modeling Results - Conveyance Design Conditions
Pipe Summary - South Basin

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-993	689	682.09	681.6369	46	15	0	7.3631	12.566	0	0	0
MH-999	683.01	674.01	672.965	46	21	0	10.045	12.566	0	0	0
MH-1001	685.92	679.09	678.5771	46	16	0	7.3429	12.566	0	0	0
MH-2496	685.3	676.26	675.8478	46	21	0	9.4522	12.566	0	0	0
MH-2497	687.62	677.79	677.4281	46	17	0	10.1919	12.566	0	0	0
MH-2499	690.87	679.29	678.9325	46	16	0	11.9375	12.566	0	0	0
MH-2507	691.29	680.46	680.104	46	15	0	11.186	12.566	0	0	0
MH-2592	687.8	676.72	676.5494	46	20	0	11.2506	12.566	0	0	0
MH-2594	691.34	678.34	677.4111	46	20	0	13.9289	12.566	0	0	0
MH-2598	693.94	680.53	680.1271	46	17	0	13.8129	12.566	0	0	0
MH-2599	692.41	682.41	682.0245	46	15	0	10.3855	12.566	0	0	0
MH-2610	692.87	684.29	683.8992	46	15	0	8.9708	12.566	0	0	0
MH-2630	694	678.4533	678.2283	46	19	0	15.7717	12.566	0	0	0
MH-2631	697.74	686.59	679.0978	46	19	0	18.6422	12.566	0	0	0
MH-2645	683.5	674.92	674.6043	46	21	0	8.8957	12.566	0	0	0
MH-2707	696.91	687.91	687.5085	46	17	0	9.4015	12.566	0	0	0
MH-2709	696.97	689.22	688.8232	46	16	0	8.1468	12.566	0	0	0
MH-2743	697.98	690.48	690.1058	46	15	0	7.8742	12.566	0	0	0
MH-2831	685.54	678.45	678.0289	46	18	0	7.5111	12.566	0	0	0
MH-2833	687.69	680.61	680.276	46	16	0	7.414	12.566	0	0	0
MH-2835	689.67	681.01	680.6767	46	17	0	8.9933	12.566	0	0	0
MH-2836	690.3	681.97	681.5629	46	16	0	8.7371	12.566	0	0	0
MH-2839	686.55	676.55	676.0128	46	20	0	10.5372	12.566	0	0	0
MH-2840	683.76	677.17	676.6033	46	15	0	7.1567	12.566	0	0	0
MH-2895	690.15	682.49	682.1187	46	15	0	8.0313	12.566	0	0	0
MH-2898	695.43	687.6	687.1011	46	15	0	8.3289	12.566	0	0	0
MH-2920	694.86	691.09	682.1855	46	15	0	12.6745	12.566	0	0	0
MH-2921	696.85	689.09	683.1261	46	20	0	13.7239	12.566	0	0	0
MH-2922	702.44	690.28	689.6868	46	21	0	12.7532	12.566	0	0	0
MH-2933	692.47	684.69	684.0819	46	17	0	8.3881	12.566	0	0	0
MH-2939	705.43	695.09	694.4894	46	16	0	10.9406	12.566	0	0	0
MH-2960	699.96	691.88	691.2837	46	16	0	8.6763	12.566	0	0	0
MH-2975	698	680.0467	679.7018	46	20	0	18.2982	12.566	0	0	0
MH-2976	698.01	680.9267	680.5774	46	18	0	17.4326	12.566	0	0	0
MH-2978	698.89	681.7267	681.378	46	17	0	17.512	12.566	0	0	0
MH-3072	698.54	689.38	689.0838	46	18	0	9.4562	12.566	0	0	0
MH-3073	700.04	690.46	690.1396	46	17	0	9.9004	12.566	0	0	0
MH-3074	702.25	691.34	691.017	46	16	0	11.233	12.566	0	0	0
MH-3075	706.07	694.41	693.9204	46	18	0	12.1496	12.566	0	0	0
MH-3076	709.37	696.62	696.1304	46	17	0	13.2396	12.566	0	0	0
MH-3078	710	698.82	698.331	46	16	0	11.669	12.566	0	0	0
MH-3079	708.94	701.28	700.7909	46	15	0	8.1491	12.566	0	0	0
MH-3080	693.25	681.09	680.8194	46	19	0	12.4306	12.566	0	0	0
MH-3081	690.5	682.79	682.5089	46	18	0	7.9911	12.566	0	0	0
MH-3082	694.34	685.11	684.1642	46	16	0	10.1758	12.566	0	0	0
MH-3083	695.83	687.08	686.5967	46	15	0	9.2333	12.566	0	0	0
MH-3086	697.88	687.13	686.7323	46	20	0	11.1477	12.566	0	0	0
MH-3087	698.06	689.18	688.0749	46	19	0	9.9851	12.566	0	0	0
MH-3200	681.42	672.85	671.8049	46	22	0	9.6151	12.566	0	0	0
MH-3204	685.4	672.26	669.7249	46	23	0	15.6751	12.566	0	0	0
MH-3207	684.51	671.75	670.4576	46	22	0	14.0524	12.566	0	0	0
MH-4634	701.25	693.59	692.9501	46	15	0	8.2999	12.566	0	0	0
MH-16260	705.51	694.88	694.2833	46	24	0	11.2267	12.566	0	0	0
MH-16261	706.26	695.38	694.7671	46	20	0	11.4929	12.566	0	0	0
MH-16262	705.11	696.28	695.6509	46	16	0	9.4591	12.566	0	0	0
MH-16263	706.02	696.58	695.9511	46	20	0	10.0689	12.566	0	0	0
MH-16264	706.73	697.07	696.4381	46	17	0	10.2919	12.566	0	0	0
MH-16265	707.89	697.51	696.8884	46	16	0	11.0016	12.566	0	0	0
MH-16266	706.71	694.37	691.7555	46	21	0	14.9545	12.566	0	0	0
MH-635	676.2	669.92	668.8741	46	16	0	7.3259	12.566	0	0	0
MH-1005	682.65	678.49	671.6114	46	15	0	11.0386	12.566	0	0	0
MH-1006	689.42	681.09	680.5654	46	15	0	8.8546	12.566	0	0	0
MH-2646	683.4	673.15	672.32	0	0	0	11.08	12.566	0	0	0
MH-4319	679	670.79	670.11	0	0	0	8.89	12.566	0	0	0
MH-4320	683	672.44	671.59	0	0	0	11.41	12.566	0	0	0
MH-4321	677.62	670.85	670.2337	46	17	0	7.3863	12.566	0	0	0
MH-604	685.1	674.55	666.6278	46	17	0	18.4722	12.566	0	0	0
MH-634	679	668.26	667.6975	46	17	0	11.3025	12.566	0	0	0
MH-2841	678	673.76	667.929	46	23	0	10.071	12.566	0	0	0
MH-2842	679.5	674.74	674.2567	46	17	0	5.2433	12.566	0	0	0
MH-2843	682.25	675.55	675.0621	46	15	0	7.1879	12.566	0	0	0
MH-3208	680	665.87	664.5534	46	25	0	15.4466	12.566	0	0	0
MH-3209	679	667.4	666.3241	46	24	0	12.6759	12.566	0	0	0
MH-3210	678	668.43	667.3656	46	23	0	10.6344	12.566	0	0	0
MH-4343	678	674.04	673.5725	46	16	0	4.4275	12.566	0	0	0
MH-4344	684.5	675.19	674.7122	46	15	0	9.7878	12.566	0	0	0
MH-602	675.4	663.95	663.4275	46	18	0	11.9725	12.566	0	0	0
MH-603	680	665.55	665.0279	46	17	0	14.9721	12.566	0	0	0
MH-621	687.5	676.09	675.5772	46	17	0	11.9228	12.566	0	0	0
MH-622	690	678.1	677.5915	46	16	0	12.4085	12.566	0	0	0
MH-624	690	680.16	679.6503	46	15	0	10.3497	12.566	0	0	0

Table 14
25-Year Recurrence Interval Event - Modeling Results - Conveyance Design Conditions
Pipe Summary - South Basin

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends Upstream (ft)	Maximum Water Elevation at Pipe Ends Downstream (ft)	Ratio d/D US	Ratio d/D DS
P-795	1.0234	2.9026	8.04	0.0224	46	16	1.1545	46	17	0.0219	694.4894	693.1859	0.104	0.098
P-796	0.9213	2.6131	8.04	0.038	46	21	1.2439	46	22	0.0413	691.7555	690.5071	0.142	0.13
P-797	0.8878	2.5434	8	0.4213	46	16	2.4967	46	17	0.4745	682.1855	681.378	0.488	0.477
P-798	0.9147	2.6205	8	0.4212	46	17	2.5654	46	19	0.4604	681.378	680.5774	0.477	0.476
P-799	0.9158	2.6236	8	0.4209	46	19	2.5634	46	18	0.4596	680.5774	679.7018	0.476	0.483
P-800	0.9085	2.6023	8.0004	0.4206	46	20	2.4288	0	15	0.463	679.7017	679.0978	0.483	0.912
P-587	1.9652	3.6035	9.9996	1.7315	46	19	4.0635	46	18	0.881	679.0978	678.2283	0.729	0.73
P-589	2.0335	3.7287	9.9996	1.7312	46	20	3.9836	46	12	0.8514	678.2283	677.4111	0.73	0.889
P-591	3.3179	4.2244	12	2.9048	46	20	4.6668	45	49	0.8755	677.4111	676.5494	0.741	0.829
P-592	3.2473	4.1345	12	2.9041	46	21	4.356	47	9	0.8943	676.5494	675.8478	0.829	1.038
P-594	3.1829	4.0526	12	3.703	46	21	4.8381	47	5	1.1634	675.8478	674.6043	1.048	0.684
P-596	4.5686	5.817	12	3.703	46	21	6.4453	46	22	0.8105	674.6043	672.965	0.684	0.705
P-1055	12.484	5.1902	21	4.2614	46	21	4.698	46	22	0.3413	672.965	671.8049	0.403	0.403
P-1056	12.1716	5.0604	21	4.2607	46	22	4.6106	46	23	0.3501	671.8049	670.7145	0.409	0.408
P-1057	12.7218	5.2891	21	4.2608	46	23	4.7634	46	24	0.3349	670.4576	669.7375	0.399	0.399
P-281	1.5457	4.3841	8.04	0.2952	46	15	3.099	46	16	0.191	681.6369	678.5771	0.324	0.234
P-282	2.4502	6.9497	8.04	0.295	46	16	4.6861	46	16	0.1204	678.5771	673.2167	0.234	0.234
P-525	1.1042	3.1318	8.04	0.4923	46	15	3.0381	46	16	0.4458	680.104	678.9325	0.469	0.466
P-536	1.1188	3.1733	8.04	0.4919	46	16	3.0595	46	17	0.4397	678.9325	677.4281	0.466	0.46
P-538	1.1367	3.2242	8.04	0.4912	46	18	3.1047	46	18	0.4321	677.4281	675.8978	0.46	0.459
P-739	1.4445	2.6698	9.96	0.3149	46	15	2.1185	45	45	0.218	676.6033	676.0128	0.317	0.353
P-737	1.4754	2.7268	9.96	0.3106	46	18	1.7651	45	16	0.2105	676.0128	675.8478	0.353	0.949
P-565	1.3565	3.8475	8.04	0.4922	46	15	3.5302	46	15	0.3628	683.8992	682.0245	0.417	0.425
P-569	1.3565	3.8475	8.04	0.4919	46	16	3.4797	46	17	0.3626	682.0245	680.1271	0.425	0.399
P-571	1.4675	4.1623	8.04	0.4914	46	17	4.4619	0	4	0.3349	680.1271	677.937	0.399	0.399
P-766	2.4801	7.0346	8.04	0.3544	46	15	4.4767	46	15	0.1429	687.1011	682.1187	0.255	0.446
P-768	0.9118	2.5862	8.04	0.3541	46	15	2.3669	46	16	0.3883	682.1187	681.5629	0.446	0.392
P-681	1.0876	3.0847	8.04	0.3539	46	16	6.4102	0	4	0.3254	681.5629	680.6767	0.392	0.503
P-683	0.702	1.9912	8.04	0.3535	46	17	1.993	46	18	0.5035	680.6767	680.276	0.503	0.501
P-692	1.3671	3.8776	8.04	0.6864	46	16	3.7771	46	15	0.5021	680.276	678.0289	0.501	0.61
P-693	1.4663	2.71	9.96	0.6853	46	18	2.3714	45	47	0.4674	678.0289	677.4111	0.493	0.893
P-263	1.121	3.1796	8.04	0.4332	46	15	2.9171	46	16	0.3864	690.1058	688.8232	0.442	0.408
P-610	1.2522	3.5516	8.04	0.4329	46	16	3.2118	46	17	0.3458	688.8232	687.5085	0.408	0.401
P-611	1.279	3.6278	8.04	0.4326	46	17	3.2757	46	17	0.3382	687.5085	686.1885	0.401	0.401
P-833	1.4807	4.1999	8.04	0.2362	46	15	3.0729	46	15	0.1595	700.7909	698.331	0.27	0.27
P-835	1.4813	4.2015	8.04	0.236	46	16	3.0699	46	17	0.1593	698.331	696.1304	0.27	0.269
P-837	1.4882	4.2211	8.04	0.2359	46	17	12.6873	0	4	0.1585	696.1304	693.9204	0.269	0.269
P-841	1.4865	4.2162	8.04	0.2357	46	18	2.6999	46	18	0.1586	693.9204	691.017	0.269	0.518
P-844	0.9982	2.8311	8.04	0.5292	46	16	2.8687	46	16	0.5302	691.017	690.1396	0.518	0.522
P-845	0.9853	2.7947	8.04	0.529	46	18	2.8186	46	18	0.5369	690.1396	689.0838	0.522	0.558
P-1996	0.8808	2.4982	8.04	0.5289	46	19	2.6443	46	19	0.6005	689.0838	688.8502	0.558	0.508
P-864	1.6033	4.5475	8.04	0.5289	46	19	5.2194	0	10	0.3299	688.0749	686.7323	0.395	0.406
P-872	1.5247	4.3246	8.04	0.5288	46	20	3.93	46	20	0.3468	686.7323	684.7122	0.406	0.406
P-873	2.0906	5.9296	8.04	0.3545	46	15	3.7532	46	15	0.1696	686.5967	684.1642	0.279	0.603
P-876	1.3205	3.7453	8.04	0.88	46	17	3.9777	46	18	0.6664	684.1642	682.5089	0.603	0.58
P-881	1.3799	3.9139	8.04	0.8799	46	18	4.1329	46	18	0.6376	682.5089	680.8194	0.58	0.596
P-883	1.3234	3.7536	8.04	0.8797	46	19	4.0146	46	20	0.6648	680.8194	679.3394	0.596	0.596
P-792	0.9153	2.5962	8.04	0.0237	46	16	1.107	46	16	0.0259	691.2837	689.6868	0.11	0.115
P-788	0.9176	2.6027	8.04	0.0235	46	21	1.8694	0	8	0.0257	689.6868	688.4877	0.115	0.101
P-2328	4.0261	11.4195	8.04	0.0158	46	15	4.2587	0	1	0.0039	692.9501	684.0819	0.045	0.092
P-786	0.9122	2.5873	8.04	0.0496	46	20	1.0101	46	24	0.0544	683.1261	682.1855	0.158	0.486
P-17598	0.8621	2.4452	8.04	0.008	46	16	0.7112	46	17	0.0093	696.8884	696.4381	0.072	0.057
P-17599	1.2023	3.4101	8.04	0.008	46	18	2.0649	0	4	0.0066	696.4381	695.9511	0.057	0.061
P-17600	1.0386	2.9459	8.04	0.008	46	20	2.5651	0	19	0.0077	695.9511	694.7671	0.061	0.085
P-17601	1.0499	2.978	8.04	0.008	46	16	0.8215	46	16	0.0076	695.6509	694.7671	0.061	0.085
P-17602	1.0612	3.0099	8.04	0.0159	46	20	1.2181	0	4	0.015	694.7671	694.2833	0.085	0.109
P-17604	0.729	2.0677	8.04	0.0158	46	24	1.3937	0	16	0.0217	694.2833	693.756	0.109	0.084
P-783	0.8808	2.4982	8.04	0.0157	46	17	0.8517	46	16	0.0178	684.0819	683.1261	0.092	0.158
P-287	1.4614	4.1449	8.04	0.1506	46	15	2.6674	46	16	0.1031	680.5654	677.9647	0.217	0.216
P-1888	1.9056	3.5221	9.96	0.271	46	16	2.4891	46	15	0.1422	671.6114	670.2337	0.255	0.257
P-1887	1.866	3.4487	9.96	0.2706	46	17	2.4524	46	18	0.145	670.2337	669.303	0.257	0.257
P-1885	1.396	3.9594	8.04	0	0	0	0	0	0	0	670.11	670.11	0	0
P-1884	1.4066	3.9895	8.04	0	0	0	0	0	0	0	670.11	668.8741	0	0
P-2991	0.8028	2.277	8.04	0	0	0	0	0	0	0	669.7249	669.7249	0	0
P-600	1.9414	3.5882	9.96	0	0	0	0	0	0	0	672.32	672.32	0	0
P-601	1.8314	3.3849	9.96	0	0	0	0	0	0	0	671.6114	671.6114	0	0
P-1059	11.863	4.9321	21	4.3637	46	24	4.5526	46	25	0.3678	669.7249	668.3942	0.42	0.42
P-1060	14.7317	6.1247	21	4.6752	46	23	5.4111	46	24	0.3174	667.929	667.3656	0.388	0.392
P-1061	14.491	6.0247	21	4.6754	46	24	5.361	46	25	0.3226	667.3656	666.3241	0.392	0.385
P-1062	14.8742	6.184	21	4.6752	46	25	5.4713	46	26	0.3143	666.3241	664.7934	0.385	0.385
P-1943	0.9226	2.6167	8.04	0.1657	46	15	1.966	46	15	0.1796	674.7122	673.5725	0.287	0.302
P-1944	0.8643	2.4516	8.04	0.1654	46	17	1.8597	46	17	0.1914	673.5725	673.276	0.302	0.278
P-753	0.9328	2.6456	8.04	0.1507	46	15	1.9365	46	15	0.1616	675.0621	674.2567	0.272	0.279
P-760	0.9164	2.5994	8.04	0.1503	46	17	1.8854	46	17	0.164	674.2567	673.2667	0.279	0.264
P-254	2.139	3.9533	9.96	0.4356	46	16	3.0779	46	16	0.2037	668.8741	667.6975	0.306	0.322
P-255	1.9378	3.5815	9.96	0.4355	46	17	2.829	46	17	0.2247	667.6975	666.6278	0.322	0.371
P-242	1.4403	4.0851	8.04	0.1808	46	15	2.7887	46	15	0.1255	679.6503	677.5915	0.239	0.241
P-243	1.4437	4.0947	8.04	0.1807	46	16	2.7711	46	17	0.1252	677.5915	675.5772	0.241	0.235
P-244	1.4967	4.245	8.04	0.1805	46	17	3.6456	0	4	0.1206	675.5772	674.0369	0.235	0.234
P-1889	2.5618	4.7348	9.96	0.7508	46	17	4.1107	46	17	0.2931	666.6278	665.0279	0.371	0.371
P-1890	2.5618	4.7348	9.96	0.7508	46	18	4.1097	46	18	0.2931	665.0279	663.4275	0.371	0.371
GATE	Undefnd	Undefnd	Undefn	4.6752	46	25								
GATE	Undefnd	Undefnd	Undefn	0.7508	46	18								

Table 15
50-Year (June 19, 2009) Recurrence Interval Event - Modeling Results - Conveyance Design Conditions
Pipe Summary - South Basin

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-993	689	682.09	681.6479	46	15	0	7.3521	12.566	0	0	0
MH-999	683.01	674.01	673.0039	46	19	0	10.0061	12.566	0	0	0
MH-1001	685.92	679.09	678.5847	46	16	0	7.3353	12.566	0	0	0
MH-2496	685.3	676.26	675.5917	46	19	0	9.7083	12.566	0	0	0
MH-2497	687.62	677.79	677.4453	46	17	0	10.1747	12.566	0	0	0
MH-2499	690.87	679.29	678.9501	46	16	0	11.9199	12.566	0	0	0
MH-2507	691.29	680.46	680.1218	46	15	0	11.1682	12.566	0	0	0
MH-2592	687.8	676.97	676.3923	46	19	0	11.4077	12.566	0	0	0
MH-2594	691.34	678.34	677.3205	46	19	0	14.0195	12.566	0	0	0
MH-2598	693.94	680.53	680.1416	46	17	0	13.7984	12.566	0	0	0
MH-2599	692.41	682.41	682.0399	46	15	0	10.3701	12.566	0	0	0
MH-2610	692.87	684.29	683.9143	46	15	0	8.9557	12.566	0	0	0
MH-2630	694	678.4533	678.2613	46	19	0	15.7387	12.566	0	0	0
MH-2631	697.74	686.59	679.152	46	19	0	18.588	12.566	0	0	0
MH-2645	683.5	675.17	674.542	46	19	0	8.958	12.566	0	0	0
MH-2707	696.91	687.91	687.5231	46	17	0	9.3869	12.566	0	0	0
MH-2709	696.97	689.22	688.838	46	16	0	8.132	12.566	0	0	0
MH-2743	697.98	690.48	690.1221	46	15	0	7.8579	12.566	0	0	0
MH-2831	685.54	678.45	678.0461	46	17	0	7.4939	12.566	0	0	0
MH-2833	687.69	680.61	680.2956	46	16	0	7.3944	12.566	0	0	0
MH-2835	689.67	681.01	680.6964	46	17	0	8.9736	12.566	0	0	0
MH-2836	690.3	681.97	681.577	46	16	0	8.723	12.566	0	0	0
MH-2839	686.55	676.55	675.9934	46	16	0	10.5566	12.566	0	0	0
MH-2840	683.76	677.17	676.618	46	15	0	7.142	12.566	0	0	0
MH-2895	690.15	682.49	682.1349	46	15	0	8.0151	12.566	0	0	0
MH-2898	695.43	687.6	687.1095	46	15	0	8.3205	12.566	0	0	0
MH-2920	694.86	691.09	682.2042	46	15	0	12.6558	12.566	0	0	0
MH-2921	696.85	689.09	683.1311	46	20	0	13.7189	12.566	0	0	0
MH-2922	702.44	690.28	689.6903	46	21	0	12.7497	12.566	0	0	0
MH-2933	692.47	684.69	684.0847	46	17	0	8.3853	12.566	0	0	0
MH-2939	705.43	695.09	694.4925	46	16	0	10.9375	12.566	0	0	0
MH-2960	699.96	691.88	691.2873	46	16	0	8.6727	12.566	0	0	0
MH-2975	698	680.0467	679.7292	46	20	0	18.2708	12.566	0	0	0
MH-2976	698.01	680.9267	680.5956	46	18	0	17.4144	12.566	0	0	0
MH-2978	698.89	681.7267	681.3962	46	17	0	17.4938	12.566	0	0	0
MH-3072	698.54	689.38	689.1057	46	18	0	9.4343	12.566	0	0	0
MH-3073	700.04	690.46	690.1604	46	17	0	9.8796	12.566	0	0	0
MH-3074	702.25	691.34	691.0376	46	16	0	11.2124	12.566	0	0	0
MH-3075	706.07	694.41	693.9294	46	18	0	12.1406	12.566	0	0	0
MH-3076	709.37	696.62	696.1394	46	17	0	13.2306	12.566	0	0	0
MH-3078	710	698.82	698.3401	46	16	0	11.6599	12.566	0	0	0
MH-3079	708.94	701.28	700.7999	46	15	0	8.1401	12.566	0	0	0
MH-3080	693.25	681.09	680.8456	46	19	0	12.4044	12.566	0	0	0
MH-3081	690.5	682.79	682.5338	46	18	0	7.9662	12.566	0	0	0
MH-3082	694.34	685.11	684.1907	46	16	0	10.1493	12.566	0	0	0
MH-3083	695.83	687.08	686.6059	46	15	0	9.2241	12.566	0	0	0
MH-3086	697.88	687.13	686.7471	46	19	0	11.1329	12.566	0	0	0
MH-3087	698.06	689.18	688.0891	46	19	0	9.9709	12.566	0	0	0
MH-3200	681.42	672.85	671.8445	46	20	0	9.5755	12.566	0	0	0
MH-3204	685.4	672.26	669.7657	46	22	0	15.6343	12.566	0	0	0
MH-3207	684.51	671.75	670.4961	46	21	0	14.0139	12.566	0	0	0
MH-4634	701.25	693.59	692.9514	46	15	0	8.2986	12.566	0	0	0
MH-16260	705.51	694.88	694.2868	46	24	0	11.2232	12.566	0	0	0
MH-16261	706.26	695.38	694.7696	46	20	0	11.4904	12.566	0	0	0
MH-16262	705.11	696.28	695.6529	46	16	0	9.4571	12.566	0	0	0
MH-16263	706.02	696.58	695.953	46	20	0	10.067	12.566	0	0	0
MH-16264	706.73	697.07	696.4398	46	17	0	10.2902	12.566	0	0	0
MH-16265	707.89	697.51	696.8908	46	15	0	10.9992	12.566	0	0	0
MH-16266	706.71	694.37	691.7599	46	21	0	14.9501	12.566	0	0	0
MH-635	676.2	669.92	668.887	46	16	0	7.313	12.566	0	0	0
MH-1005	682.65	678.49	671.6218	46	15	0	11.0282	12.566	0	0	0
MH-1006	689.42	681.09	680.5724	46	15	0	8.8476	12.566	0	0	0
MH-2646	683.4	673.15	672.32	0	0	0	11.08	12.566	0	0	0
MH-4319	679	670.79	670.11	0	0	0	8.89	12.566	0	0	0
MH-4320	683	672.44	671.59	0	0	0	11.41	12.566	0	0	0
MH-4321	677.62	670.85	670.2442	46	17	0	7.3758	12.566	0	0	0
MH-604	685.1	674.55	666.644	46	17	0	18.456	12.566	0	0	0
MH-634	679	668.26	667.7111	46	17	0	11.2889	12.566	0	0	0
MH-2841	678	673.76	667.9662	46	22	0	10.0338	12.566	0	0	0
MH-2842	679.5	674.74	674.2658	46	17	0	5.2342	12.566	0	0	0
MH-2843	682.25	675.55	675.0712	46	15	0	7.1788	12.566	0	0	0
MH-3208	680	665.87	664.5904	46	23	0	15.4096	12.566	0	0	0
MH-3209	679	667.4	666.3607	46	23	0	12.6393	12.566	0	0	0
MH-3210	678	668.43	667.403	46	22	0	10.597	12.566	0	0	0
MH-4343	678	674.04	673.5826	46	16	0	4.4174	12.566	0	0	0
MH-4344	684.5	675.19	674.7218	46	15	0	9.7782	12.566	0	0	0
MH-602	675.4	663.95	663.4438	46	18	0	11.9562	12.566	0	0	0
MH-603	680	665.55	665.0441	46	17	0	14.9559	12.566	0	0	0
MH-621	687.5	676.09	675.5849	46	17	0	11.9151	12.566	0	0	0
MH-622	690	678.1	677.5994	46	16	0	12.4006	12.566	0	0	0
MH-624	690	680.16	679.6581	46	15	0	10.3419	12.566	0	0	0

Table 15
50-Year (June 19, 2009) Recurrence Interval Event - Modeling Results - Conveyance Design Conditions
Pipe Summary - South Basin

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends Upstream (ft)	Maximum Water Elevation at Pipe Ends Downstream (ft)	Ratio d/D US	Ratio d/D DS
P-795	1.0234	2.9026	8.04	0.0246	46	16	1.1916	46	17	0.0241	694.4925	693.1893	0.108	0.103
P-796	0.9213	2.6131	8.04	0.0418	46	21	1.2813	46	22	0.0454	691.7599	690.5113	0.149	0.136
P-797	0.8878	2.5434	8	0.4633	46	16	2.5569	46	17	0.5218	682.2042	681.3962	0.516	0.504
P-798	0.9147	2.6205	8	0.4631	46	17	2.6267	46	19	0.5063	681.3962	680.5956	0.504	0.503
P-799	0.9158	2.6236	8	0.4629	46	18	2.6158	46	18	0.5054	680.5956	679.7292	0.503	0.524
P-800	0.9085	2.6023	8.0004	0.4626	46	20	2.4288	0	15	0.5092	679.7292	679.152	0.524	0.993
P-587	1.9652	3.6035	9.9996	1.9039	46	19	4.1119	46	20	0.9688	679.152	678.2613	0.794	0.77
P-589	2.0335	3.7287	9.9996	1.9038	46	20	4.2232	46	21	0.9362	678.2613	677.3205	0.77	0.781
P-591	6.0157	4.902	15	3.1959	46	19	4.9306	46	20	0.5313	677.3205	676.3923	0.52	0.538
P-592	5.8877	4.7977	15	3.196	46	19	4.6588	46	20	0.5428	676.3923	675.5917	0.538	0.625
P-594	5.771	4.7026	15	4.0789	46	19	5.1097	46	20	0.7068	675.5917	674.542	0.633	0.498
P-596	8.2835	6.75	15	4.079	46	20	6.5268	46	20	0.4924	674.542	673.0039	0.498	0.595
P-1055	12.484	5.1902	21	4.6953	46	20	4.8194	46	20	0.3761	673.0039	671.8445	0.425	0.425
P-1056	12.1716	5.0604	21	4.6945	46	21	4.7313	46	22	0.3857	671.8445	670.754	0.431	0.431
P-1057	12.7218	5.2891	21	4.6947	46	21	4.8874	46	22	0.369	670.4961	669.7755	0.421	0.42
P-281	1.5457	4.3841	8.04	0.3246	46	15	3.1834	46	16	0.21	681.6479	678.5847	0.34	0.246
P-282	2.4502	6.9497	8.04	0.3243	46	16	4.8175	46	16	0.1324	678.5847	673.2244	0.246	0.245
P-525	1.1042	3.1318	8.04	0.5412	46	15	3.1118	46	16	0.4901	680.1218	678.9501	0.495	0.493
P-536	1.1188	3.1733	8.04	0.5408	46	16	3.1346	46	17	0.4834	678.9501	677.4453	0.493	0.485
P-538	1.1367	3.2242	8.04	0.5401	46	17	3.1819	46	18	0.4751	677.4453	675.9152	0.485	0.485
P-739	1.4445	2.6698	9.96	0.3463	46	15	2.1838	46	16	0.2397	676.618	675.9934	0.335	0.329
P-737	1.4754	2.7268	9.96	0.3459	46	16	1.961	46	16	0.2344	675.9934	675.5917	0.329	0.641
P-565	1.3565	3.8475	8.04	0.5411	46	15	3.6213	46	15	0.3989	683.9143	682.0399	0.439	0.448
P-569	1.3565	3.8475	8.04	0.5408	46	16	3.5697	46	17	0.3987	682.0399	680.1416	0.448	0.42
P-571	1.4675	4.1623	8.04	0.5403	46	17	4.4619	0	4	0.3682	680.1416	677.9513	0.42	0.42
P-766	2.4801	7.0346	8.04	0.3897	46	15	4.5996	46	15	0.1571	687.1095	682.1349	0.268	0.47
P-768	0.9118	2.5862	8.04	0.3893	46	16	2.4295	46	16	0.427	682.1349	681.577	0.47	0.413
P-681	1.0876	3.0847	8.04	0.3891	46	16	6.4102	0	4	0.3578	681.577	680.6964	0.413	0.532
P-683	0.702	1.9912	8.04	0.3887	46	17	2.0402	46	18	0.5537	680.6963	680.2956	0.532	0.531
P-692	1.3671	3.8776	8.04	0.7548	46	16	3.8767	46	15	0.5521	680.2956	678.0461	0.531	0.636
P-693	1.4663	2.71	9.96	0.7542	46	18	2.5374	46	17	0.5144	678.0461	677.3205	0.513	0.784
P-263	1.121	3.1796	8.04	0.4762	46	15	2.991	46	16	0.4248	690.1221	688.838	0.466	0.43
P-610	1.2522	3.5516	8.04	0.476	46	16	3.2945	46	17	0.3802	688.838	687.5231	0.43	0.423
P-611	1.279	3.6278	8.04	0.4757	46	17	3.3582	46	17	0.3719	687.5231	686.2028	0.423	0.422
P-833	1.4807	4.1999	8.04	0.2597	46	15	3.1583	46	15	0.1754	700.7999	698.3401	0.283	0.284
P-835	1.4813	4.2015	8.04	0.2595	46	16	3.1553	46	17	0.1752	698.3401	696.1394	0.284	0.283
P-837	1.4882	4.2211	8.04	0.2594	46	17	12.6873	0	4	0.1743	696.1394	693.9294	0.283	0.283
P-841	1.4865	4.2162	8.04	0.2592	46	18	2.7724	46	18	0.1744	693.9294	691.0376	0.283	0.549
P-844	0.9982	2.8311	8.04	0.582	46	16	2.935	46	16	0.5831	691.0376	690.1604	0.549	0.553
P-845	0.9853	2.7947	8.04	0.5817	46	17	2.8847	46	18	0.5904	690.1604	689.1057	0.553	0.591
P-1996	0.8808	2.4982	8.04	0.5816	46	18	2.716	46	19	0.6604	689.1057	688.8675	0.591	0.534
P-864	1.6033	4.5475	8.04	0.5816	46	19	5.2194	0	10	0.3628	688.0891	686.7471	0.417	0.429
P-872	1.5247	4.3246	8.04	0.5815	46	20	4.0303	46	20	0.3814	686.7471	684.7269	0.429	0.428
P-873	2.0906	5.9296	8.04	0.3897	46	15	3.8485	46	15	0.1864	686.6059	684.1907	0.292	0.643
P-876	1.3205	3.7453	8.04	0.9677	46	17	4.0606	46	18	0.7328	684.1906	682.5338	0.643	0.618
P-881	1.3799	3.9139	8.04	0.9676	46	18	4.2196	46	17	0.7012	682.5338	680.8456	0.618	0.635
P-883	1.3234	3.7536	8.04	0.9675	46	19	4.0961	46	20	0.731	680.8456	679.3656	0.635	0.635
P-792	0.9153	2.5962	8.04	0.0261	46	16	1.1408	46	16	0.0285	691.2873	689.6903	0.115	0.12
P-788	0.9176	2.6027	8.04	0.0259	46	21	1.8694	0	8	0.0282	689.6903	688.4913	0.12	0.106
P-2328	4.0261	11.4195	8.04	0.0174	46	15	4.2587	0	1	0.0043	692.9514	684.0847	0.047	0.097
P-786	0.9122	2.5873	8.04	0.0546	46	20	1.0371	46	24	0.0599	683.1311	682.2042	0.166	0.514
P-17598	0.8621	2.4452	8.04	0.0088	46	16	0.7338	46	17	0.0102	696.8908	696.4398	0.076	0.059
P-17599	1.2023	3.4101	8.04	0.0088	46	18	2.0649	0	4	0.0073	696.4398	695.953	0.059	0.064
P-17600	1.0386	2.9459	8.04	0.0087	46	20	2.5651	0	19	0.0084	695.953	694.7696	0.064	0.089
P-17601	1.0499	2.978	8.04	0.0088	46	16	0.846	46	16	0.0084	695.6529	694.7696	0.064	0.089
P-17602	1.0612	3.0099	8.04	0.0174	46	20	1.2181	0	4	0.0164	694.7696	694.2868	0.089	0.115
P-17604	0.729	2.0677	8.04	0.0174	46	24	1.3937	0	16	0.0239	694.2868	693.7584	0.115	0.087
P-783	0.8808	2.4982	8.04	0.0173	46	17	0.8761	46	16	0.0196	684.0847	683.1311	0.097	0.166
P-287	1.4614	4.1449	8.04	0.1656	46	15	2.7434	46	16	0.1133	680.5724	677.9718	0.228	0.227
P-1888	1.9056	3.5221	9.96	0.2979	46	16	2.5581	46	15	0.1563	671.6218	670.2442	0.267	0.27
P-1887	1.866	3.4487	9.96	0.2975	46	17	2.5213	46	18	0.1595	670.2442	669.3137	0.27	0.27
P-1885	1.396	3.9594	8.04	0	0	0	0	0	0	0	670.11	670.11	0	0
P-1884	1.4066	3.9895	8.04	0	0	0	0	0	0	0	670.11	668.887	0	0
P-2991	0.8028	2.277	8.04	0	0	0	0	0	0	0	669.7657	669.7657	0	0
P-600	1.9414	3.5882	9.96	0	0	0	0	0	0	0	672.32	672.32	0	0
P-601	1.8314	3.3849	9.96	0	0	0	0	0	0	0	671.6218	671.6218	0	0
P-1059	11.863	4.9321	21	4.8082	46	22	4.6729	46	23	0.4053	669.7657	668.4355	0.443	0.443
P-1060	14.7317	6.1247	21	5.152	46	22	5.5544	46	23	0.3497	667.9662	667.403	0.409	0.413
P-1061	14.491	6.0247	21	5.1522	46	22	5.5049	46	23	0.3555	667.403	666.3607	0.413	0.406
P-1062	14.8742	6.184	21	5.152	46	23	5.6186	46	24	0.3464	666.3607	664.8304	0.406	0.406
P-1943	0.9226	2.6167	8.04	0.1822	46	15	2.0193	46	15	0.1974	674.7218	673.5826	0.301	0.317
P-1944	0.8643	2.4516	8.04	0.1819	46	17	1.9123	46	17	0.2104	673.5826	673.285	0.317	0.291
P-753	0.9328	2.6456	8.04	0.1657	46	15	1.99	46	15	0.1777	675.0712	674.2658	0.285	0.292
P-760	0.9164	2.5994	8.04	0.1653	46	17	1.9386	46	17	0.1803	674.2658	673.2759	0.292	0.277
P-254	2.139	3.9533	9.96	0.479	46	16	3.1624	46	16	0.2239	668.887	667.7111	0.322	0.339
P-255	1.9378	3.5815	9.96	0.4789	46	17	2.904	46	17	0.2471	667.7111	666.644	0.339	0.39
P-242	1.4403	4.0851	8.04	0.1988	46	15	2.8642	46	15	0.138	679.6581	677.5994	0.251	0.253
P-243	1.4437	4.0947	8.04	0.1987	46	16	2.8467	46	17	0.1376	677.5994	675.5849	0.253	0.246
P-244	1.4967	4.245	8.04	0.1985	46	17	3.6456	0	4	0.1326	675.5849	674.0446	0.246	0.246
P-1889	2.5618	4.7348	9.96	0.8256	46	17	4.2185	46	17	0.3223	666.644	665.0441	0.39	0.39
P-1890	2.5618	4.7348	9.96	0.8255	46	18	4.2177	46	18	0.3222	665.0441	663.4438	0.39	0.39
GATE	Undefnd	Undefnd	Undefn	5.152	46	23								
GATE	Undefnd	Undefnd	Undefn	0.8255	46	18								

Table 16
100-Year Recurrence Interval Event - Modeling Results - Conveyance Design Conditions
Manhole Summary - South Basin

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-993	689	682.09	681.6584	46	15	0	7.3416	12.566	0	0	0
MH-999	683.01	674.01	673.0411	46	19	0	9.9689	12.566	0	0	0
MH-1001	685.92	679.09	678.5921	46	16	0	7.3279	12.566	0	0	0
MH-2496	685.3	676.26	675.6361	46	19	0	9.6639	12.566	0	0	0
MH-2497	687.62	677.79	677.4623	46	17	0	10.1577	12.566	0	0	0
MH-2499	690.87	679.29	678.9674	46	16	0	11.9026	12.566	0	0	0
MH-2507	691.29	680.46	680.1392	46	15	0	11.1508	12.566	0	0	0
MH-2592	687.8	676.97	676.429	46	19	0	11.371	12.566	0	0	0
MH-2594	691.34	678.34	677.3561	46	19	0	13.9839	12.566	0	0	0
MH-2598	693.94	680.53	680.1554	46	17	0	13.7846	12.566	0	0	0
MH-2599	692.41	682.41	682.055	46	15	0	10.355	12.566	0	0	0
MH-2610	692.87	684.29	683.9291	46	15	0	8.9409	12.566	0	0	0
MH-2630	694	678.62	678.2034	46	19	0	15.7966	12.566	0	0	0
MH-2631	697.74	686.59	679.0782	46	18	0	18.6618	12.566	0	0	0
MH-2645	683.5	675.17	674.5761	46	19	0	8.9239	12.566	0	0	0
MH-2707	696.91	687.91	687.5371	46	17	0	9.3729	12.566	0	0	0
MH-2709	696.97	689.22	688.8523	46	16	0	8.1177	12.566	0	0	0
MH-2743	697.98	690.48	690.1379	46	15	0	7.8421	12.566	0	0	0
MH-2831	685.54	678.45	678.0724	46	18	0	7.4676	12.566	0	0	0
MH-2833	687.69	680.61	680.3149	46	16	0	7.3751	12.566	0	0	0
MH-2835	689.67	681.01	680.7157	46	17	0	8.9543	12.566	0	0	0
MH-2836	690.3	681.97	681.5907	46	16	0	8.7093	12.566	0	0	0
MH-2839	686.55	676.55	676.008	46	16	0	10.542	12.566	0	0	0
MH-2840	683.76	677.17	676.6304	46	15	0	7.1296	12.566	0	0	0
MH-2895	690.15	682.49	682.1507	46	15	0	7.9993	12.566	0	0	0
MH-2898	695.43	687.6	687.1177	46	15	0	8.3123	12.566	0	0	0
MH-2920	694.86	691.09	682.2227	46	15	0	12.6373	12.566	0	0	0
MH-2921	696.85	689.09	683.1359	46	20	0	13.7141	12.566	0	0	0
MH-2922	702.44	690.28	689.6934	46	20	0	12.7466	12.566	0	0	0
MH-2933	692.47	684.69	684.0875	46	17	0	8.3825	12.566	0	0	0
MH-2939	705.43	695.09	694.4955	46	16	0	10.9345	12.566	0	0	0
MH-2960	699.96	691.88	691.291	46	16	0	8.669	12.566	0	0	0
MH-2975	698	680.0467	679.7395	46	19	0	18.2605	12.566	0	0	0
MH-2976	698.01	680.9267	680.6134	46	18	0	17.3966	12.566	0	0	0
MH-2978	698.89	681.7267	681.414	46	17	0	17.476	12.566	0	0	0
MH-3072	698.54	689.38	689.1272	46	18	0	9.4128	12.566	0	0	0
MH-3073	700.04	690.46	690.1813	46	17	0	9.8587	12.566	0	0	0
MH-3074	702.25	691.34	691.0582	46	16	0	11.1918	12.566	0	0	0
MH-3075	706.07	694.41	693.938	46	18	0	12.132	12.566	0	0	0
MH-3076	709.37	696.62	696.148	46	17	0	13.222	12.566	0	0	0
MH-3078	710	698.82	698.3487	46	16	0	11.6513	12.566	0	0	0
MH-3079	708.94	701.28	700.8085	46	15	0	8.1315	12.566	0	0	0
MH-3080	693.25	681.09	680.8722	46	19	0	12.3778	12.566	0	0	0
MH-3081	690.5	682.79	682.5591	46	18	0	7.9409	12.566	0	0	0
MH-3082	694.34	685.11	684.2175	46	16	0	10.1225	12.566	0	0	0
MH-3083	695.83	687.08	686.6149	46	15	0	9.2151	12.566	0	0	0
MH-3086	697.88	687.13	686.7614	46	19	0	11.1186	12.566	0	0	0
MH-3087	698.06	689.18	688.103	46	19	0	9.957	12.566	0	0	0
MH-3200	681.42	672.85	671.8824	46	20	0	9.5376	12.566	0	0	0
MH-3204	685.4	672.26	669.8051	46	22	0	15.5949	12.566	0	0	0
MH-3207	684.51	671.75	670.5327	46	21	0	13.9773	12.566	0	0	0
MH-4634	701.25	693.59	692.9527	46	15	0	8.2973	12.566	0	0	0
MH-16260	705.51	694.88	694.2901	46	24	0	11.2199	12.566	0	0	0
MH-16261	706.26	695.38	694.772	46	20	0	11.488	12.566	0	0	0
MH-16262	705.11	696.28	695.6547	46	16	0	9.4553	12.566	0	0	0
MH-16263	706.02	696.58	695.9549	46	20	0	10.0651	12.566	0	0	0
MH-16264	706.73	697.07	696.4418	46	17	0	10.2882	12.566	0	0	0
MH-16265	707.89	697.51	696.893	46	15	0	10.997	12.566	0	0	0
MH-16266	706.71	694.37	691.7642	46	21	0	14.9458	12.566	0	0	0
MH-635	676.2	669.92	668.8455	46	18	0	7.3545	12.566	0	0	0
MH-1005	682.65	678.49	671.6319	46	15	0	11.0181	12.566	0	0	0
MH-1006	689.42	681.09	680.5791	46	15	0	8.8409	12.566	0	0	0
MH-2646	683.4	673.15	672.32	0	0	0	11.08	12.566	0	0	0
MH-4319	679	670.79	670.11	0	0	0	8.89	12.566	0	0	0
MH-4320	683	672.44	671.59	0	0	0	11.41	12.566	0	0	0
MH-4321	677.62	670.85	670.2543	46	17	0	7.3657	12.566	0	0	0
MH-604	685.1	674.55	666.6215	46	18	0	18.4785	12.566	0	0	0
MH-634	679	668.26	667.6671	46	19	0	11.3329	12.566	0	0	0
MH-2841	678	673.76	668.0017	46	22	0	9.9983	12.566	0	0	0
MH-2842	679.5	674.74	674.2748	46	17	0	5.2252	12.566	0	0	0
MH-2843	682.25	675.55	675.0799	46	15	0	7.1701	12.566	0	0	0
MH-3208	680	665.87	664.6253	46	23	0	15.3747	12.566	0	0	0
MH-3209	679	667.4	666.3959	46	23	0	12.6041	12.566	0	0	0
MH-3210	678	668.43	667.4386	46	22	0	10.5614	12.566	0	0	0
MH-4343	678	674.04	673.5923	46	16	0	4.4077	12.566	0	0	0
MH-4344	684.5	675.19	674.7311	46	15	0	9.7689	12.566	0	0	0
MH-602	675.4	663.95	663.4214	46	19	0	11.9786	12.566	0	0	0
MH-603	680	665.55	665.0215	46	18	0	14.9785	12.566	0	0	0
MH-621	687.5	676.09	675.5923	46	17	0	11.9077	12.566	0	0	0
MH-622	690	678.1	677.6069	46	16	0	12.3931	12.566	0	0	0
MH-624	690	680.16	679.6656	46	15	0	10.3344	12.566	0	0	0

Table 16
100-Year Recurrence Interval Event - Modeling Results - Conveyance Design Conditions
Manhole Summary - South Basin

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends Upstream (ft)	Maximum Water Elevation at Pipe Ends Downstream (ft)	Ratio d/D US	Ratio d/D DS
P-795	1.0234	2.9026	8.04	0.0269	46	16	1.2276	46	17	0.0262	694.4955	693.1927	0.113	0.109
P-796	0.9213	2.6131	8.04	0.0456	46	21	1.3175	46	21	0.0495	691.7642	690.5155	0.155	0.142
P-797	0.8878	2.5434	8	0.5052	46	16	2.6118	46	17	0.569	682.2227	681.414	0.544	0.531
P-798	0.9147	2.6205	8	0.505	46	17	2.6832	46	19	0.5521	681.414	680.6134	0.531	0.53
P-799	0.9158	2.6236	8	0.5047	46	18	2.68	46	18	0.5511	680.6134	679.7395	0.53	0.539
P-800	0.9085	2.6023	8.0004	0.5045	46	20	2.4568	46	20	0.5553	679.7395	679.0782	0.539	0.882
P-587	3.1961	4.0693	12	2.0767	46	19	4.3281	46	19	0.6498	679.0782	678.2034	0.588	0.583
P-589	3.3071	4.2107	12	2.0766	46	19	4.2772	46	20	0.6279	678.2034	677.3561	0.583	0.686
P-591	6.0157	4.902	15	3.4861	46	19	5.0322	46	19	0.5795	677.3561	676.429	0.549	0.567
P-592	5.8877	4.7977	15	3.4861	46	19	4.7593	46	20	0.5921	676.429	675.6361	0.567	0.661
P-594	5.771	4.7026	15	4.4494	46	19	5.2337	46	20	0.771	675.6361	674.5761	0.669	0.525
P-596	8.2835	6.75	15	4.4494	46	20	6.6622	46	20	0.5371	674.5761	673.0411	0.525	0.625
P-1055	12.484	5.1902	21	5.1215	46	19	4.9309	46	20	0.4102	673.0411	671.8824	0.446	0.447
P-1056	12.1716	5.0604	21	5.1207	46	21	4.8402	46	22	0.4207	671.8824	670.7919	0.453	0.452
P-1057	12.7218	5.2891	21	5.1209	46	21	5.0026	46	22	0.4025	670.5327	669.8126	0.442	0.441
P-281	1.5457	4.3841	8.04	0.354	46	15	3.2642	46	16	0.229	681.6584	678.5921	0.356	0.257
P-282	2.4502	6.9497	8.04	0.3537	46	16	4.9346	46	16	0.1443	678.5921	673.2316	0.257	0.256
P-525	1.1042	3.1318	8.04	0.5902	46	15	3.1797	46	16	0.5345	680.1392	678.9674	0.521	0.518
P-536	1.1188	3.1733	8.04	0.5897	46	16	3.203	46	17	0.5271	678.9674	677.4623	0.518	0.511
P-538	1.1367	3.2242	8.04	0.589	46	17	3.2509	46	18	0.5181	677.4623	675.9322	0.511	0.511
P-739	1.4445	2.6698	9.96	0.3777	46	15	2.2425	46	16	0.2615	676.6304	676.008	0.35	0.347
P-737	1.4754	2.7268	9.96	0.377	46	16	1.9853	45	45	0.2555	676.008	675.6361	0.347	0.694
P-565	1.3565	3.8475	8.04	0.5901	46	15	3.7029	46	15	0.435	683.9291	682.055	0.461	0.47
P-569	1.3565	3.8475	8.04	0.5897	46	16	3.652	46	17	0.4347	682.055	680.1554	0.47	0.441
P-571	1.4675	4.1623	8.04	0.5892	46	17	4.4619	0	4	0.4015	680.1554	677.9654	0.441	0.441
P-766	2.4801	7.0346	8.04	0.425	46	15	4.7163	46	15	0.1713	687.1177	682.1507	0.28	0.494
P-768	0.9118	2.5862	8.04	0.4246	46	16	2.4876	46	16	0.4656	682.1507	681.5907	0.494	0.434
P-681	1.0876	3.0847	8.04	0.4243	46	16	6.4102	0	4	0.3902	681.5907	680.7157	0.434	0.561
P-683	0.702	1.9912	8.04	0.4239	46	17	2.0836	46	18	0.6038	680.7157	680.3149	0.561	0.56
P-692	1.3671	3.8776	8.04	0.8231	46	16	3.9576	46	15	0.6021	680.3149	678.0724	0.56	0.675
P-693	1.4663	2.71	9.96	0.8224	46	18	2.5768	46	17	0.5609	678.0724	677.3561	0.545	0.827
P-263	1.121	3.1796	8.04	0.5193	46	15	3.0597	46	16	0.4633	690.1379	688.8523	0.489	0.451
P-610	1.2522	3.5516	8.04	0.5191	46	16	3.3708	46	17	0.4145	688.8523	687.5371	0.451	0.443
P-611	1.279	3.6278	8.04	0.5187	46	17	3.4375	46	17	0.4055	687.5371	686.217	0.443	0.443
P-833	1.4807	4.1999	8.04	0.2832	46	15	3.2356	46	15	0.1912	700.8085	698.3487	0.296	0.297
P-835	1.4813	4.2015	8.04	0.283	46	16	3.2325	46	17	0.191	698.3487	696.148	0.297	0.295
P-837	1.4882	4.2211	8.04	0.2829	46	17	12.6873	0	4	0.1901	696.1479	693.938	0.295	0.295
P-841	1.4865	4.2162	8.04	0.2827	46	18	2.8378	46	18	0.1902	693.938	691.0582	0.295	0.579
P-844	0.9982	2.8311	8.04	0.6347	46	16	2.9949	46	16	0.6359	691.0582	690.1813	0.579	0.584
P-845	0.9853	2.7947	8.04	0.6344	46	18	2.9441	46	17	0.6439	690.1813	689.1272	0.584	0.623
P-1996	0.8808	2.4982	8.04	0.6343	46	19	2.7833	46	19	0.7202	689.1272	688.8843	0.623	0.559
P-864	1.6033	4.5475	8.04	0.6343	46	19	5.2194	0	10	0.3956	688.103	686.7614	0.437	0.45
P-872	1.5247	4.3246	8.04	0.6342	46	20	4.1237	46	20	0.416	686.7614	684.7412	0.45	0.45
P-873	2.0906	5.9296	8.04	0.425	46	15	3.9378	46	15	0.2033	686.6149	684.2175	0.306	0.683
P-876	1.3205	3.7453	8.04	1.0553	46	17	4.1337	46	19	0.7991	684.2175	682.5591	0.683	0.655
P-881	1.3799	3.9139	8.04	1.0551	46	18	4.2954	46	18	0.7647	682.5591	680.8722	0.655	0.675
P-883	1.3234	3.7536	8.04	1.055	46	19	4.1682	46	20	0.7972	680.8722	679.3921	0.675	0.675
P-792	0.9153	2.5962	8.04	0.0284	46	16	1.1676	46	16	0.0311	691.291	689.6934	0.121	0.125
P-788	0.9176	2.6027	8.04	0.0283	46	20	1.8694	0	8	0.0308	689.6934	688.4949	0.125	0.112
P-2328	4.0261	11.4195	8.04	0.0189	46	15	4.2587	0	1	0.0047	692.9527	684.0875	0.049	0.101
P-786	0.9122	2.5873	8.04	0.0596	46	20	1.0622	46	23	0.0653	683.1359	682.2227	0.173	0.541
P-17598	0.8621	2.4452	8.04	0.0096	46	16	0.7568	46	17	0.0111	696.893	696.4418	0.079	0.062
P-17599	1.2023	3.4101	8.04	0.0095	46	18	2.0649	0	4	0.0079	696.4418	695.9549	0.062	0.067
P-17600	1.0386	2.9459	8.04	0.0095	46	20	2.5651	0	19	0.0092	695.9549	694.772	0.067	0.093
P-17601	1.0499	2.978	8.04	0.0096	46	16	0.895	45	35	0.0091	695.6547	694.772	0.067	0.093
P-17602	1.0612	3.0099	8.04	0.019	46	20	1.2181	0	4	0.0179	694.772	694.2901	0.093	0.12
P-17604	0.729	2.0677	8.04	0.019	46	24	1.3937	0	16	0.026	694.2901	693.7607	0.12	0.091
P-783	0.8808	2.4982	8.04	0.0189	46	17	0.8993	46	16	0.0214	684.0875	683.1359	0.101	0.173
P-287	1.4614	4.1449	8.04	0.1806	46	15	2.8181	46	16	0.1236	680.5791	677.9789	0.237	0.237
P-1888	1.9056	3.5221	9.96	0.3249	46	15	2.624	46	16	0.1705	671.6319	670.2543	0.279	0.282
P-1887	1.866	3.4487	9.96	0.3245	46	17	2.5869	46	18	0.1739	670.2543	669.3242	0.282	0.282
P-1885	1.396	3.9594	8.04	0	0	0	0	0	0	0	670.11	670.11	0	0
P-1884	1.4066	3.9895	8.04	0	0	0	0	0	0	0	670.11	668.8455	0	0
P-2991	0.8028	2.277	8.04	0	0	0	0	0	0	0	669.8051	669.8051	0	0
P-600	1.9414	3.5882	9.96	0	0	0	0	0	0	0	672.32	672.32	0	0
P-601	1.8314	3.3849	9.96	0	0	0	0	0	0	0	671.6319	671.6319	0	0
P-1059	11.863	4.9321	21	5.2447	46	22	4.7781	46	23	0.4421	669.8051	668.4746	0.466	0.465
P-1060	14.7317	6.1247	21	5.6197	46	22	5.684	46	23	0.3815	668.0017	667.4386	0.43	0.434
P-1061	14.491	6.0247	21	5.6199	46	22	5.6356	46	23	0.3878	667.4386	666.3959	0.434	0.426
P-1062	14.8742	6.184	21	5.6198	46	23	5.7496	46	24	0.3778	666.3959	664.8653	0.426	0.426
P-1943	0.9226	2.6167	8.04	0.1986	46	15	2.0699	46	15	0.2153	674.7311	673.5923	0.315	0.332
P-1944	0.8643	2.4516	8.04	0.1983	46	17	1.9604	46	17	0.2295	673.5923	673.2939	0.332	0.304
P-753	0.9328	2.6456	8.04	0.1807	46	15	2.0388	46	15	0.1938	675.0799	674.2748	0.298	0.306
P-760	0.9164	2.5994	8.04	0.1802	46	17	1.9863	46	17	0.1966	674.2748	673.2841	0.306	0.29
P-254	2.139	3.9533	9.96	0.3453	46	18	2.8816	46	18	0.1614	668.8455	667.6671	0.272	0.286
P-255	1.9378	3.5815	9.96	0.3451	46	19	2.6031	46	20	0.1781	667.6671	666.6215	0.286	0.363
P-242	1.4403	4.0851	8.04	0.2168	46	15	2.9362	46	15	0.1505	679.6656	677.6069	0.262	0.264
P-243	1.4437	4.0947	8.04	0.2166	46	16	2.9188	46	17	0.1501	677.6069	675.5923	0.264	0.257
P-244	1.4967	4.245	8.04	0.2165	46	17	3.6456	0	4	0.1446	675.5923	674.0517	0.257	0.256
P-1889	2.5618	4.7348	9.96	0.7223	46	18	4.0683	46	18	0.282	666.6215	665.0215	0.363	0.363
P-1890	2.5618	4.7348	9.96	0.7223	46	19	4.0679	46	19	0.2819	665.0215	663.4214	0.363	0.363
GATE	Undefnd	Undefnd	Undefn	5.6198	46	23								
GATE	Undefnd	Undefnd	Undefn	0.7223	46	19								

Table 17
25-Year Recurrence Interval Event - Pump Station/Storage Modeling Results
North Basin - Existing System

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-1002	688.01	679.257	678.59	0	0	0	9.42	12.566	0	0	0
MH-1003	680.47	670.887	670.4318	46	16	0	10.0382	12.566	0	0	0
MH-1004	686.45	679.867	679.3319	46	15	0	7.1181	12.566	0	0	0
MH-16339	678.6	678.087	677.5668	46	16	0	1.0332	12.566	0	0	0
MH-16365	694.8	686.137	685.7969	46	20	0	9.0031	12.566	0	0	0
MH-16366	692.73	685.257	683.35	46	18	0	9.38	12.566	0	0	0
MH-16369	677.35	667.487	662.5963	46	20	0	14.7537	12.566	0	0	0
MH-1822	687.46	675.707	675.2177	46	16	0	12.2423	12.566	0	0	0
MH-1823	692.89	682.807	682.2966	46	16	0	10.5934	12.566	0	0	0
MH-1824	700.02	689.907	689.3986	46	15	0	10.6214	12.566	0	0	0
MH-1885	694.17	687.007	686.654	46	18	0	7.516	12.566	0	0	0
MH-1886	697.35	688.597	688.1203	46	16	0	9.2297	12.566	0	0	0
MH-1888	698.76	690.177	689.7027	46	15	0	9.0573	12.566	0	0	0
MH-1891	682.47	674.387	672.9726	46	18	0	9.4974	12.566	0	0	0
MH-1893	690.94	681.187	680.6884	46	17	0	10.2516	12.566	0	0	0
MH-1895	696.5	684.587	684.1359	46	15	0	12.3641	12.566	0	0	0
MH-3088	698.25	689.087	688.5693	46	17	0	9.6807	12.566	0	0	0
MH-3089	700.35	690.187	689.7343	46	16	0	10.6157	12.566	0	0	0
MH-3090	699.25	690.917	690.4126	46	15	0	8.8374	12.566	0	0	0
MH-320	660.66	644.41	644.2191	46	17	0	16.4409	12.566	0	0	0
MH-343	660.87	647.813	648.2675	46	17	0.4545	12.6025	12.566	0	0	0
MH-354	660.62	649.8863	651.7796	46	21	1.8932	8.8404	12.566	0	0	0
MH-355	666.12	652.1053	654.4701	46	20	2.3647	11.6499	12.566	0	0	0
MH-356	670.73	659.087	657.5616	46	20	0	13.1684	12.566	0	0	0
MH-357	662.42	655.81	651.8665	46	17	0	10.5535	12.566	0	0	0
MH-358	666.59	658.5	657.913	46	19	0	8.677	12.566	0	0	0
MH-374	666.5	657.5	658.5254	46	20	1.0254	7.9746	12.566	0	0	0
MH-375	664.75	657.12	658.3558	46	20	1.2358	6.3942	12.566	0	0	0
MH-396	668.15	656.737	658.5688	46	20	1.8318	9.5812	12.566	0	0	0
MH-4199	692.91	676.41	675.9133	46	15	0	16.9967	12.566	0	0	0
MH-466	675.12	663.207	662.6578	43	16	0	12.4622	12.566	0	0	0
MH-467	681.52	672.087	669.1706	46	15	0	12.3494	12.566	0	0	0
MH-468	689.87	679.287	678.7702	46	15	0	11.0998	12.566	0	0	0
MH-470	672.35	661.017	660.5406	46	17	0	11.8094	12.566	0	0	0
MH-471	681.46	670.297	669.7614	46	15	0	11.6986	12.566	0	0	0
MH-472	682.45	673.287	672.7703	46	15	0	9.6797	12.566	0	0	0
MH-5152	670.49	658.649	660.6336	46	20	1.9846	9.8564	12.566	0	0	0
MH-5174	665.92	655.353	658.0473	46	20	2.6943	7.8727	12.566	0	0	0
MH-5568	658.82	646.99	646.5502	46	17	0	12.2698	12.566	0	0	0
MH-5571	661.85	648.81	648.2492	46	17	0	13.6008	12.566	0	0	0
MH-5572	665.87	652.87	651.6537	46	16	0	14.2163	12.566	0	0	0
MH-5574	665.94	653.05	652.356	46	15	0	13.584	12.566	0	0	0
MH-5724	677.33	667.333	668.6004	46	21	1.2674	8.7296	12.566	0	0	0
MH-6069	660.42	645.72	646.4719	46	17	0.7519	13.9481	12.566	0	0	0
MH-6075	681.16	666.16	665.6135	46	15	0	15.5465	12.566	0	0	0
MH-6090	662.05	649.4	648.8569	47	14	0	13.1931	12.566	0	0	0
MH-6092	682.68	670.347	669.7823	46	15	0	12.8977	12.566	0	0	0
MH-6168	663.92	650.467	650.1786	46	18	0	13.7414	12.566	0	0	0
MH-669	681.05	670.713	670.6877	46	25	0	10.3623	12.566	0	0	0
MH-670	689.72	671.887	670.8937	46	25	0	18.8263	12.566	0	0	0
MH-671	696.64	672.887	672.4071	46	15	0	24.2329	12.566	0	0	0
MH-672	678.61	668.443	669.6468	46	21	1.2038	8.9632	12.566	0	0	0
MH-673	683.22	674.887	674.3394	45	18	0	8.8806	12.566	0	0	0
MH-674	690.96	681.627	681.1029	46	15	0	9.8571	12.566	0	0	0
MH-871	679.09	670.11	669.5986	44	46	0	9.4914	12.566	0	0	0
MH-877	685.75	674.587	674.0904	46	15	0	11.6596	12.566	0	0	0
MH-879	676.54	666.487	667.4387	46	20	0.9517	9.1013	12.566	0	0	0
MH-884	681.49	672.087	665.4779	46	19	0	16.0121	12.566	0	0	0
MH-886	687.77	677.107	676.5798	46	16	0	11.1902	12.566	0	0	0
MH-887	688.81	682.057	681.5289	46	15	0	7.2811	12.566	0	0	0
MH-937	680.8	672.227	672.0664	46	23	0	8.7336	12.566	0	0	0
MH-938	682.09	674.177	673.8452	46	19	0	8.2448	12.566	0	0	0
MH-940	695.96	688.957	688.3512	46	15	0	7.6088	12.566	0	0	0
MH-943	682.72	674.344	673.8457	45	17	0	8.8743	12.566	0	0	0
MH-944	686.14	678.35	677.8731	46	15	0	8.2669	12.566	0	0	0
MH-946	691.27	682.357	681.8676	46	15	0	9.4024	12.566	0	0	0
MH-961	679.46	668.457	667.9466	46	16	0	11.5134	12.566	0	0	0
MH-962	689.04	680.457	679.888	46	15	0	9.152	12.566	0	0	0
MH-968	681.12	668.299	667.9172	46	18	0	13.2028	12.566	0	0	0
MH-969	680.17	669.087	668.6888	46	15	0	11.4812	12.566	0	0	0
MH-976	678.37	669.087	663.5768	46	7	0	14.7932	12.566	0	0	0
MH-983	680.15	663.183	664.1081	46	20	0.9251	16.0419	12.566	0	0	0
MH-986	678.74	665.633	666.5556	46	20	0.9226	12.1844	12.566	0	0	0
MH-991	681.04	671.747	670.7504	45	36	0	10.2896	12.566	0	0	0
MH-993	688.87	681.957	681.4583	46	15	0	7.4117	12.566	0	0	0
Node90	676.54	666.37	665.5995	46	21	0	10.9405	12.566	0	0	0
Node91	677	665.37	664.5987	46	21	0	12.4013	12.566	0	0	0

Table 17
25-Year Recurrence Interval Event - Pump Station/Storage Modeling Results
North Basin - Existing System

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends Upstream (ft)	Maximum Water Elevation at Pipe Ends Downstream (ft)	Ratio d/D US	Ratio d/D DS
P-485	2.4042	6.8805	8.004	0.2921	46	15	4.597	46	16	0.1215	689.3986	682.2966	0.238	0.235
P-486	2.4128	6.9053	8.004	0.2918	46	16	4.5766	46	16	0.1209	682.2966	675.2177	0.235	0.266
P-487	1.8758	5.3683	8.004	0.2916	46	16	2.9395	45	15	0.1554	675.2177	670.6877	0.266	1.211
P-671	2.2315	4.0946	9.996	1.4827	46	28	3.897	44	44	0.6645	670.6877	669.6468	0.97	2.445
P-2983	2.1464	3.9385	9.996	1.9979	46	21	3.9699	43	0	0.9308	669.6468	668.6004	2.445	2.522
P-2985	2.1504	3.9458	9.996	1.9978	46	21	3.6308	46	21	0.9291	668.6004	667.4387	2.522	2.483
P-2981	1.5777	2.8951	9.996	2.0465	45	20	3.7235	45	19	1.2971	667.4387	666.5556	2.483	2.108
P-2979	1.5769	2.8935	9.996	2.0342	45	20	3.7	45	20	1.29	666.5556	665.4779	2.108	1.582
P-521	2.7888	5.1173	9.996	2.3575	45	21	5.3447	44	44	0.8453	665.4779	664.1081	1.582	2.111
P-522	2.789	5.1177	9.996	2.3566	47	24	5.0825	43	22	0.845	664.1081	662.5963	2.111	2.493
P-2909	3.4798	6.3852	9.996	2.8362	46	19	8.2215	0	2	0.815	662.5963	660.6336	2.493	3.382
P-2910	3.4798	6.3851	9.996	2.8361	46	21	9.2551	0	2	0.815	660.6336	658.5254	3.382	4.028
P-2915	1.6161	2.9655	9.996	2.0664	42	54	4.8441	0	2	1.2786	658.5254	658.0473	4.028	4.234
P-2916	1.6166	2.9664	9.996	2.0598	42	54	3.8297	42	53	1.2741	658.0473	657.5616	4.234	4.432
P-195	2.7168	4.9811	10	2.9176	46	19	5.262	42	49	1.0739	657.5616	654.4701	4.43	3.838
P-196	2.7172	4.982	10	2.9175	46	20	5.2561	46	20	1.0737	654.4701	651.7796	3.838	3.272
P-506	1.43	4.0926	8.004	0.2781	46	15	2.9251	46	16	0.1945	684.1359	680.6884	0.324	0.252
P-507	2.0242	5.793	8.004	0.2775	46	17	4.0093	46	17	0.1371	680.6884	673.8865	0.252	0.25
P-501	1.3361	3.8238	8.004	0.2363	46	15	2.8297	46	16	0.1769	689.7027	688.1203	0.289	0.285
P-502	1.3293	3.8045	8.004	0.2361	46	16	2.6186	46	16	0.1776	688.1203	686.654	0.285	0.471
P-503	0.9141	2.6162	8.004	0.4018	46	18	2.4721	46	18	0.4395	686.654	685.7969	0.471	0.49
P-504	0.9016	2.5802	8.004	0.4012	46	20	2.3856	46	21	0.445	685.7969	684.8849	0.49	0.442
P-899	1.2808	3.6656	8.004	0.1668	46	15	2.4175	46	15	0.1303	690.4126	689.7343	0.244	0.321
P-901	0.9056	2.5917	8.004	0.1665	46	16	1.7889	46	17	0.1839	689.7343	688.5693	0.321	0.224
P-904	1.5122	4.3279	8.004	0.1664	46	17	3.1206	0	4	0.11	688.5693	686.654	0.224	0.471
P-265	3.167	9.0637	8.004	0.0557	46	15	2.3814	46	15	0.0176	688.3512	683.35	0.092	0.3
P-266	3.1056	8.8879	8.004	0.6075	46	18	6.2675	46	18	0.1956	683.35	673.8452	0.3	0.502
P-505	1.2636	3.6163	8.004	0.6074	46	19	3.2761	46	20	0.4807	673.8452	672.9726	0.502	0.727
P-267	1.2628	3.6141	8.004	1.0364	46	17	3.7994	46	15	0.8207	672.9726	672.0664	0.727	0.759
P-268	1.2635	3.6161	8.004	1.0337	46	17	3.7097	45	18	0.8181	672.0664	670.6877	0.759	1.211
P-261	0.9951	2.848	8.004	0.1666	46	16	2.0784	46	16	0.1674	672.4071	671.4045	0.281	0.277
P-262	0.7876	2.254	8.004	0.1636	46	32	1.3353	45	18	0.2078	670.8937	670.6877	0.38	1.451
P-269	2.1639	6.1929	8.004	0.334	46	15	4.4263	46	15	0.1544	681.8676	677.8731	0.266	0.285
P-270	2.1636	6.1921	8.004	0.334	46	15	4.2868	45	17	0.1544	677.8731	673.8456	0.285	0.253
P-271	2.1638	6.1925	8.004	0.3825	45	18	4.0721	45	18	0.1768	673.8457	669.6468	0.253	3.054
P-263	2.5185	7.2078	8.004	0.1947	46	15	4.1055	45	18	0.0773	681.1029	674.3394	0.214	0.179
P-264	2.5251	7.2266	8.004	0.2766	45	18	3.9689	45	18	0.1095	674.3394	669.6468	0.179	3.054
P-272	3.2315	9.2483	8.004	0.1511	46	15	4.3339	45	15	0.0467	679.888	667.9466	0.147	0.235
P-273	1.2929	3.7002	8.004	0.1542	45	9	2.1036	42	37	0.1193	667.9466	667.4387	0.235	2.427
P-259	1.941	5.5551	8.004	0.2716	46	15	3.8592	46	15	0.1399	674.0904	669.6112	0.255	0.252
P-260	1.9413	5.5558	8.004	0.2761	45	8	3.3557	42	38	0.1422	669.5986	667.4387	0.233	2.427
P-278	1.8801	5.3806	8.004	0.2565	46	15	3.7084	46	15	0.1364	681.4583	677.5861	0.252	0.249
P-277	2.4706	7.0705	8.004	0.2563	46	16	4.495	46	16	0.1038	677.5668	670.7504	0.22	0.225
P-283	2.1307	6.0978	8.004	0.323	45	37	3.8028	45	37	0.1516	670.7504	665.4779	0.225	1.976
P-284	2.9795	8.5271	8.004	0	0	0	0	0	0	0	670.7504	670.7504	0	0
P-257	1.9186	5.4908	8.004	0.1811	46	15	3.4276	46	15	0.0944	681.5289	676.5798	0.208	0.21
P-258	1.9321	5.5295	8.004	0.1807	46	17	3.3994	46	17	0.0935	676.5798	671.5575	0.21	0.206
P-308	3.0003	8.5867	8.004	0.2567	46	15	4.7909	46	15	0.0856	679.3319	670.4318	0.198	0.318
P-311	1.201	3.4372	8.004	0.256	46	16	2.6888	46	17	0.2132	670.4318	668.6289	0.318	0.313
P-276	1.202	3.4401	8.004	0.2611	46	8	2.5651	44	49	0.2172	663.5768	662.5963	0.31	1.764
P-275	0.8076	2.3113	8.004	0.2706	46	18	1.9378	46	18	0.3351	667.9172	667.0602	0.428	0.36
P-208	2.2051	6.3109	8.004	0.2412	46	15	4.0953	46	15	0.1094	678.7702	671.5685	0.225	0.223
P-207	2.6764	7.6596	8.004	0.2413	46	16	4.3214	43	16	0.0902	669.1706	662.6578	0.226	0.177
P-205	2.6816	7.6744	8.004	0.2889	43	16	16.5301	0	2	0.1077	662.6578	658.5688	0.177	3.746
P-204	0.9306	2.6633	8.004	0.2732	43	19	1.7791	42	32	0.2936	658.5688	658.5254	3.746	4.536
P-199	0.9548	2.7327	8.004	-0.3831	46	20	1.2546	42	45	-0.4012	657.9878	658.3558	0.431	2.853
P-202	0.9429	2.6985	8.004	-0.3831	46	20	-1.0734	46	20	-0.4063	658.3558	658.5254	2.853	4.536
P-211	2.2668	6.4873	8.004	0.2264	46	15	3.9029	46	15	0.0999	672.7703	669.7614	0.225	0.197
P-209	2.6625	7.62	8.004	0.2262	46	15	4.3446	46	15	0.085	669.7614	660.5406	0.197	0.286
P-210	1.3029	3.7288	8.004	0.2257	46	17	2.8969	0	2	0.1733	660.5406	658.6078	0.286	0.282
P-3077	21.7997	12.3361	18	15.6939	46	15	12.5774	46	15	0.7199	675.9133	665.6135	0.669	0.636
P-3073	26.1881	14.8194	18	15.6862	46	15	13.4364	46	16	0.599	665.6135	652.3866	0.636	0.558
P-3067	15.7527	8.9142	18	12.5162	46	15	7.8192	42	30	0.7945	652.356	648.2675	1.664	2.485
P-3069	5.5605	3.1466	18	11.9005	46	17	6.6754	46	17	2.1402	648.2675	646.4719	2.485	1.501
P-3070	11.0648	6.2614	18	11.9005	46	17	6.7652	46	17	1.0755	646.4719	644.2191	1.501	0.873
P-3088	3.55	10.1599	8.004	0.1811	46	15	3.9764	43	15	0.051	669.7823	651.8665	0.153	0.55
P-3092	1.4511	4.1529	8.004	0.8168	46	18	4.1354	46	18	0.5629	651.8665	650.1786	0.55	0.568
P-3093	1.443	4.1297	8.004	0.8168	46	19	3.7132	46	19	0.566	650.1786	648.8569	0.568	1.105
P-17061	13.1123	10.6849	15	3.7342	46	20	5.594	46	28	0.2848	648.8569	648.2492	0.566	0.551
P-2956	9.9182	5.6125	18	3.17	46	16	3.3933	46	16	0.3196	652.356	651.9525	0.537	0.388
P-2957	14.0776	7.9663	18	3.1671	46	16	5.3811	46	16	0.225	651.6536	648.2492	0.322	0.766
P-2958	8.7309	4.9407	18	7.4985	46	17	5.2077	46	18	0.8589	648.2492	646.5502	0.766	0.707
P-197	1.6824	3.0847	10	2.9175	46	21	5.3357	46	21	1.7341	651.7796	648.8569	3.272	0.884
P-274	0.8077	2.3116	8.004	0.2716	46	15	2.0438	46	16	0.3363	668.6888	667.9172	0.403	0.428
P-2917	1.6007	2.9584	9.96	1.3482	46	23	3.0453	43	11	0.8423	658.5254	657.5616	2.235	2.641
P-198	3.6852	6.811	9.96	0.6369	46	19	4.8487	46	19	0.1728	657.913	655.2135	0.293	0.281
P-1000	3.0205	5.5424	9.996	-0.7585	44	37	4.2662	47	47	-0.2511	648.2492	648.2675	0.983	1.546
Link91	4.6787	5.9571	12	0.5399	46	21	3.9655	46	21	0.1154	665.5995	664.5987	0.229	0.229
Weir #1	Undefnd	Undefnd	Undefn	0.5403	46	20								
FREE # 1	Undefnd	Undefnd	Undefn	11.9005	46	17								
FREE # 2	Undefnd	Undefnd	Undefn	7.4985	46	17								
FREE # 3	Undefnd	Undefnd	Undefn	0.5399	46	21								

Table 18
25-Year Recurrence Interval Event - Pump Station/Storage Modeling Results
North Basin - Existing System with 15" Pipe on Pershing Blvd.

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-1002	688.01	679.257	678.59	0	0	0	9.42	12.566	0	0	0
MH-1003	680.47	670.887	670.4318	46	16	0	10.0382	12.566	0	0	0
MH-1004	686.45	679.867	679.3319	46	15	0	7.1181	12.566	0	0	0
MH-16339	678.6	678.087	677.565	46	16	0	1.035	12.566	0	0	0
MH-16365	694.8	686.137	685.7969	46	20	0	9.0031	12.566	0	0	0
MH-16366	692.73	685.257	683.35	46	18	0	9.38	12.566	0	0	0
MH-16369	677.35	667.487	661.8371	46	22	0	15.5129	12.566	0	0	0
MH-1822	687.46	675.707	675.2177	46	16	0	12.2423	12.566	0	0	0
MH-1823	692.89	682.807	682.2966	46	16	0	10.5934	12.566	0	0	0
MH-1824	700.02	689.907	689.3986	46	15	0	10.6214	12.566	0	0	0
MH-1885	694.17	687.007	686.654	46	18	0	7.516	12.566	0	0	0
MH-1886	697.35	688.597	688.1203	46	16	0	9.2297	12.566	0	0	0
MH-1888	698.76	690.177	689.7027	46	15	0	9.0573	12.566	0	0	0
MH-1891	682.47	674.387	672.9726	46	18	0	9.4974	12.566	0	0	0
MH-1893	690.94	681.187	680.6884	46	17	0	10.2516	12.566	0	0	0
MH-1895	696.5	684.587	684.1359	46	15	0	12.3641	12.566	0	0	0
MH-3088	698.25	689.087	688.5693	46	17	0	9.6807	12.566	0	0	0
MH-3089	700.35	690.187	689.7343	46	16	0	10.6157	12.566	0	0	0
MH-3090	699.25	690.917	690.4124	46	15	0	8.8376	12.566	0	0	0
MH-320	660.66	644.41	644.2201	46	17	0	16.4399	12.566	0	0	0
MH-343	660.87	647.813	648.2841	46	17	0.4711	12.5859	12.566	0	0	0
MH-354	660.62	650.303	649.892	46	22	0	10.728	12.566	0	0	0
MH-355	666.12	652.522	651.8659	46	21	0	14.2541	12.566	0	0	0
MH-356	670.73	659.087	654.4718	46	20	0	16.2582	12.566	0	0	0
MH-357	662.42	655.81	651.7396	46	16	0	10.6804	12.566	0	0	0
MH-358	666.59	658.5	657.8054	46	15	0	8.7846	12.566	0	0	0
MH-374	666.5	657.5	657.2046	46	21	0	9.2954	12.566	0	0	0
MH-375	664.75	657.12	657.2075	46	21	0.0875	7.5425	12.566	0	0	0
MH-396	668.15	656.737	657.2489	46	19	0.5119	10.9011	12.566	0	0	0
MH-4199	692.91	676.41	675.9133	46	15	0	16.9967	12.566	0	0	0
MH-466	675.12	663.207	662.6752	46	16	0	12.4448	12.566	0	0	0
MH-467	681.52	672.087	669.1568	46	15	0	12.3632	12.566	0	0	0
MH-468	689.87	679.287	678.7702	46	15	0	11.0998	12.566	0	0	0
MH-470	672.35	661.017	660.5406	46	17	0	11.8094	12.566	0	0	0
MH-471	681.46	670.297	669.7614	46	15	0	11.6986	12.566	0	0	0
MH-472	682.45	673.287	672.7703	46	15	0	9.6797	12.566	0	0	0
MH-5152	670.49	658.649	659.6083	46	22	0.9593	10.8817	12.566	0	0	0
MH-5174	665.92	655.353	655.8946	46	22	0.5416	10.0254	12.566	0	0	0
MH-5568	658.82	646.99	646.5602	46	17	0	12.2598	12.566	0	0	0
MH-5571	661.85	648.81	648.2689	46	17	0	13.5811	12.566	0	0	0
MH-5572	665.87	652.87	651.6552	46	16	0	14.2148	12.566	0	0	0
MH-5574	665.94	653.05	652.3591	46	15	0	13.5809	12.566	0	0	0
MH-5724	677.33	667.333	668.5869	46	22	1.2539	8.7431	12.566	0	0	0
MH-6069	660.42	645.72	646.4813	46	17	0.7613	13.9387	12.566	0	0	0
MH-6075	681.16	666.16	665.6135	46	15	0	15.5465	12.566	0	0	0
MH-6090	662.05	649.4	648.8783	47	15	0	13.1717	12.566	0	0	0
MH-6092	682.68	670.347	669.7823	46	15	0	12.8977	12.566	0	0	0
MH-6168	663.92	650.467	650.0354	46	17	0	13.8846	12.566	0	0	0
MH-669	681.05	670.713	670.6734	46	24	0	10.3766	12.566	0	0	0
MH-670	689.72	671.887	670.8902	46	24	0	18.8298	12.566	0	0	0
MH-671	696.64	672.887	672.4071	46	15	0	24.2329	12.566	0	0	0
MH-672	678.61	668.443	669.6348	46	22	1.1918	8.9752	12.566	0	0	0
MH-673	683.22	674.887	674.3394	45	18	0	8.8806	12.566	0	0	0
MH-674	690.96	681.627	681.103	46	15	0	9.857	12.566	0	0	0
MH-871	679.09	670.11	669.5986	44	46	0	9.4914	12.566	0	0	0
MH-877	685.75	674.587	674.0904	46	15	0	11.6596	12.566	0	0	0
MH-879	676.54	666.487	667.4235	46	20	0.9365	9.1165	12.566	0	0	0
MH-884	681.49	672.087	665.1074	46	21	0	16.3826	12.566	0	0	0
MH-886	687.77	677.107	676.5798	46	16	0	11.1902	12.566	0	0	0
MH-887	688.81	682.057	681.5289	46	15	0	7.2811	12.566	0	0	0
MH-937	680.8	672.227	672.0633	46	22	0	8.7367	12.566	0	0	0
MH-938	682.09	674.177	673.8452	46	19	0	8.2448	12.566	0	0	0
MH-940	695.96	688.957	688.3512	46	15	0	7.6088	12.566	0	0	0
MH-943	682.72	674.344	673.8457	45	18	0	8.8743	12.566	0	0	0
MH-944	686.14	678.35	677.8732	46	15	0	8.2668	12.566	0	0	0
MH-946	691.27	682.357	681.8676	46	15	0	9.4024	12.566	0	0	0
MH-961	679.46	668.457	667.9454	46	16	0	11.5146	12.566	0	0	0
MH-962	689.04	680.457	679.888	46	15	0	9.152	12.566	0	0	0
MH-968	681.12	668.299	667.9172	46	18	0	13.2028	12.566	0	0	0
MH-969	680.17	669.087	668.6888	46	15	0	11.4812	12.566	0	0	0
MH-976	678.37	669.087	663.579	46	17	0	14.791	12.566	0	0	0
MH-983	680.15	663.183	663.5932	46	21	0.4102	16.5568	12.566	0	0	0
MH-986	678.74	665.633	666.3717	46	21	0.7387	12.3683	12.566	0	0	0
MH-991	681.04	671.747	670.7561	46	16	0	10.2839	12.566	0	0	0
MH-993	688.87	681.957	681.4583	46	15	0	7.4117	12.566	0	0	0
Node90	676.54	666.37	665.5605	46	22	0	10.9795	12.566	0	0	0
Node91	677	665.37	664.5596	46	22	0	12.4404	12.566	0	0	0

Table 18
25-Year Recurrence Interval Event - Pump Station/Storage Modeling Results
North Basin - Existing System with 15" Pipe on Pershing Blvd.

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Proposed Pipe Diameter (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends: Upstream (ft)	Maximum Water Elevation at Pipe Ends: Downstream (ft)	Ratio d/D: US	Ratio d/D: DS
P-485	2.4042	6.8805	8.004		0.2921	46	15	4.597	46	16	0.1215	689.3986	682.2966	0.238	0.235
P-486	2.4128	6.9053	8.004		0.2918	46	16	4.5766	46	16	0.1209	682.2966	675.2177	0.235	0.266
P-487	1.8758	5.3683	8.004		0.2916	46	17	2.9405	45	16	0.1554	675.2177	670.6734	0.266	1.19
P-671	2.2315	4.0946	9.996		1.4818	46	26	3.897	44	44	0.664	670.6734	669.6348	0.953	2.431
P-2983	2.1464	3.9385	9.996		1.9991	46	22	3.97	43	0	0.9314	669.6348	668.5869	2.431	2.505
P-2985	2.1504	3.9458	9.996		1.9991	46	22	3.6336	46	22	0.9297	668.5869	667.4235	2.505	2.465
P-2981	1.5777	2.8951	9.996		2.1212	45	27	3.8591	45	27	1.3445	667.4235	666.3717	2.465	1.887
P-2979	1.5769	2.8935	9.996		2.1206	45	26	3.929	45	26	1.3448	666.3717	665.1074	1.887	1.137
P-521	2.7888	5.1173	9.996		2.5073	45	25	5.3917	45	17	0.899	665.1074	663.5932	1.137	1.492
P-522	2.789	5.1177	9.996		2.5264	47	24	5.1214	45	4	0.9058	663.5932	661.8371	1.492	1.581
P-2909	3.4798	6.3852	9.996		3.0028	46	22	8.2215	0	2	0.8629	661.8371	659.6083	1.581	2.152
P-2910	3.4798	6.3851	9.996		3.0028	46	22	9.2551	0	2	0.8629	659.6083	657.2046	2.152	2.442
P-2915	1.6161	2.9655	9.996		2.1977	46	22	4.8441	0	2	1.3598	657.2046	655.8946	2.442	1.65
P-2916	1.6166	2.9664	9.996		2.1977	46	22	4.1106	46	22	1.3594	655.8946	654.4718	1.65	0.722
P-195	8.01	6.5271	15.000	15	3.5171	46	20	6.0276	46	21	0.4391	654.4718	651.8659	0.481	0.475
P-196	8.0114	6.5283	15.000	15	3.5171	46	21	5.8158	46	21	0.439	651.8659	649.892	0.475	0.671
P-506	1.43	4.0926	8.004		0.2781	46	15	2.9251	46	16	0.1945	684.1359	680.6884	0.324	0.252
P-507	2.0242	5.793	8.004		0.2775	46	17	4.0093	46	17	0.1371	680.6884	673.8865	0.252	0.25
P-501	1.3361	3.8238	8.004		0.2363	46	15	2.8297	46	16	0.1769	689.7027	688.1203	0.289	0.285
P-502	1.3293	3.8045	8.004		0.2361	46	16	2.6186	46	16	0.1776	688.1203	686.654	0.285	0.471
P-503	0.9141	2.6162	8.004		0.4018	46	18	2.4722	46	18	0.4396	686.654	685.7969	0.471	0.49
P-504	0.9016	2.5802	8.004		0.4012	46	20	2.3857	46	22	0.445	685.7969	684.8849	0.49	0.442
P-899	1.2808	3.6656	8.004		0.1669	46	15	2.4206	46	15	0.1303	690.4124	689.7343	0.244	0.321
P-901	0.9056	2.5917	8.004		0.1666	46	16	1.789	46	17	0.1839	689.7343	688.5693	0.321	0.224
P-904	1.5122	4.3279	8.004		0.1664	46	17	3.1206	0	4	0.11	688.5693	686.654	0.224	0.471
P-265	3.167	9.0637	8.004		0.0557	46	15	2.3814	46	15	0.0176	688.3512	683.35	0.092	0.3
P-266	3.1056	8.8879	8.004		0.6075	46	18	6.2676	46	18	0.1956	683.35	673.8452	0.3	0.502
P-505	1.2636	3.6163	8.004		0.6074	46	19	3.2762	46	20	0.4807	673.8452	672.9726	0.502	0.727
P-267	1.2628	3.6141	8.004		1.0365	46	18	3.8005	46	15	0.8207	672.9726	672.0633	0.727	0.755
P-268	1.2635	3.6161	8.004		1.0347	46	18	3.711	45	19	0.8189	672.0633	670.6734	0.755	1.19
P-261	0.9951	2.848	8.004		0.1666	46	15	2.0784	46	16	0.1674	672.4071	671.4045	0.281	0.277
P-262	0.7876	2.254	8.004		0.1637	46	16	1.3358	45	18	0.2079	670.8902	670.6734	0.375	1.429
P-269	2.1639	6.1929	8.004		0.334	46	15	4.4263	46	15	0.1543	681.8676	677.8732	0.266	0.285
P-270	2.1636	6.1921	8.004		0.334	46	15	4.287	45	18	0.1544	677.8732	673.8457	0.285	0.253
P-271	2.1638	6.1925	8.004		0.3825	45	18	4.0725	45	18	0.1768	673.8457	669.6348	0.253	3.036
P-263	2.5185	7.2078	8.004		0.1947	46	15	4.1055	45	18	0.0773	681.103	674.3394	0.214	0.179
P-264	2.5251	7.2266	8.004		0.2786	45	18	3.9845	45	18	0.1103	674.3394	669.6348	0.179	3.036
P-272	3.2315	9.2483	8.004		0.1511	46	15	4.3365	45	15	0.0467	679.888	667.9454	0.147	0.233
P-273	1.2929	3.7002	8.004		0.1542	45	9	2.1038	42	37	0.1192	667.9454	667.4235	0.233	2.404
P-259	1.941	5.5551	8.004		0.2716	46	15	3.8592	46	15	0.1399	674.0904	669.6112	0.255	0.252
P-260	1.9413	5.5558	8.004		0.276	45	8	3.356	42	38	0.1422	669.5986	667.4235	0.233	2.404
P-278	1.8801	5.3806	8.004		0.2565	46	15	3.7084	46	15	0.1364	681.4583	677.5861	0.252	0.249
P-277	2.4706	7.0705	8.004		0.2564	46	16	4.5173	46	15	0.1038	677.565	670.7561	0.217	0.234
P-283	2.1307	6.0978	8.004		0.2562	46	16	2.8127	46	16	0.1203	670.7561	665.1074	0.234	1.42
P-284	2.9795	8.5271	8.004		0	0	0	0	0	0	0	670.7561	670.7561	0	0
P-257	1.9186	5.4908	8.004		0.1811	46	15	3.4276	46	15	0.0944	681.5289	676.5798	0.208	0.21
P-258	1.9321	5.5295	8.004		0.1807	46	16	3.3994	46	17	0.0935	676.5798	671.5575	0.21	0.206
P-308	3.0003	8.5867	8.004		0.2567	46	15	4.7909	46	15	0.0856	679.3319	670.4318	0.198	0.318
P-311	1.201	3.4372	8.004		0.256	46	16	2.6888	46	17	0.2132	670.4318	668.6289	0.318	0.313
P-276	1.202	3.4401	8.004		0.2559	46	17	2.6139	45	31	0.2129	663.579	661.8371	0.313	0.625
P-275	0.8076	2.3113	8.004		0.2706	46	18	1.9378	46	18	0.3351	667.9172	667.0602	0.428	0.36
P-208	2.2051	6.3109	8.004		0.2412	46	15	4.0953	46	15	0.1094	678.7702	671.5685	0.225	0.223
P-207	2.6764	7.6596	8.004		0.2413	46	16	4.6848	46	16	0.0901	669.1568	662.6752	0.205	0.203
P-205	2.6816	7.6744	8.004		0.2412	46	16	16.5301	0	2	0.0899	662.6752	657.2489	0.203	1.767
P-204	0.9306	2.6633	8.004		0.241	46	17	1.7784	42	32	0.259	657.2489	657.2046	1.767	2.556
P-199	0.9548	2.7327	8.004		0.0518	46	15	1.2508	42	45	0.0542	657.8054	657.2075	0.158	1.131
P-202	0.9429	2.6985	8.004		-0.1404	42	47	0.926	42	26	-0.1489	657.2075	657.2046	1.131	2.556
P-211	2.2668	6.4873	8.004		0.2264	46	15	3.9029	46	15	0.0999	672.7703	669.7614	0.225	0.197
P-209	2.6625	7.62	8.004		0.2262	46	15	4.3446	46	15	0.085	669.7614	660.5406	0.197	0.286
P-210	1.3029	3.7288	8.004		0.2257	46	17	2.8969	0	2	0.1733	660.5406	658.6078	0.286	0.282
P-3077	21.7997	12.3361	18		15.6939	46	15	12.5774	46	15	0.7199	675.9133	665.6135	0.669	0.636
P-3073	26.1881	14.8194	18		15.6862	46	15	13.4364	46	16	0.599	665.6135	652.3866	0.636	0.558
P-3067	15.7527	8.9142	18		12.4961	46	15	7.8192	42	30	0.7933	652.3591	648.2841	1.666	2.496
P-3069	5.5605	3.1466	18		11.9247	46	17	6.6885	46	17	2.1445	648.2841	646.4813	2.496	1.508
P-3070	11.0648	6.2614	18		11.9248	46	17	6.7784	46	17	1.0777	646.4813	644.2201	1.508	0.873
P-3088	3.55	10.1599	8.004		0.1811	46	15	4.3198	46	15	0.051	669.7823	651.7396	0.153	0.359
P-3092	1.4511	4.1529	8.004		0.3856	46	16	3.4225	46	17	0.2657	651.7396	650.0354	0.359	0.353
P-3093	1.443	4.1297	8.004		0.3854	46	17	2.8455	46	17	0.2671	650.0354	648.8783	0.353	1.137
P-17061	13.1123	10.6849	15		3.9003	46	20	5.6168	46	30	0.2975	648.8783	648.2689	0.583	0.567
P-2956	9.9182	5.6125	18		3.1902	46	16	3.3986	46	16	0.3216	652.3591	651.9545	0.539	0.39
P-2957	14.0776	7.9663	18		3.1872	46	16	5.3743	46	16	0.2264	651.6552	648.2689	0.323	0.779
P-2958	8.7309	4.9407	18		7.6373	46	17	5.2191	46	18	0.8747	648.2689	646.5602	0.779	0.713
P-197	4.9604	4.0421	15	15	3.5168	46	22	4.0869	47	14	0.709	649.892	648.8783	0.671	0.607
P-274	0.8077	2.3116	8.004		0.2716	46	15	2.0438	46	16	0.3363	668.6888	667.9172	0.403	0.428
P-2917	1.6007	2.9584	9.96		1.0948	46	21	3.0181	46	22	0.684	657.2046	655.8362	0.644	0.562
P-198	3.6852	6.811	9.96		0.2047	46	15	3.5673	46	15	0.0556	657.8054	655.1128	0.163	0.16
P-1000	3.0205	5.5424	9.996		-0.7587	44	38	4.179	47	46	-0.2512	648.2689	648.2841	1.007	1.566
Link91	4.6787	5.9571	12		0.3707	46	22	3.5497	46	22	0.0792	665.5605	664.5596	0.191	0.19
Weir #1	Undefnd	Undefnd	Undefn		0.3712	46	20								
FREE # 1	Undefnd	Undefnd	Undefn		11.9248	46	17								
FREE # 2	Undefnd	Undefnd	Undefn		7.6372	46	17								
FREE # 3	Undefnd	Undefnd	Undefn		0.3707	46	22								

Table 19
50-Year Recurrence Interval Event - Pump Station/Storage Modeling Results
North Basin - Existing System

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-1002	688.01	679.257	678.59	0	0	0	9.42	12.566	0	0	0
MH-1003	680.47	670.887	670.4422	46	16	0	10.0278	12.566	0	0	0
MH-1004	686.45	679.867	679.3379	46	15	0	7.1121	12.566	0	0	0
MH-16339	678.6	678.087	677.5737	46	16	0	1.0263	12.566	0	0	0
MH-16365	694.8	686.137	685.8163	46	20	0	8.9837	12.566	0	0	0
MH-16366	692.73	685.257	683.36	46	18	0	9.37	12.566	0	0	0
MH-16369	677.35	667.487	662.8122	46	19	0	14.5378	12.566	0	0	0
MH-1822	687.46	675.707	675.2242	45	48	0	12.2358	12.566	0	0	0
MH-1823	692.89	682.807	682.3059	46	15	0	10.5841	12.566	0	0	0
MH-1824	700.02	689.907	689.4055	46	15	0	10.6145	12.566	0	0	0
MH-1885	694.17	687.007	686.672	46	18	0	7.498	12.566	0	0	0
MH-1886	697.35	688.597	688.1297	46	16	0	9.2203	12.566	0	0	0
MH-1888	698.76	690.177	689.7124	46	15	0	9.0476	12.566	0	0	0
MH-1891	682.47	674.387	673.681	46	24	0	8.789	12.566	0	0	0
MH-1893	690.94	681.187	680.6967	46	17	0	10.2433	12.566	0	0	0
MH-1895	696.5	684.587	684.1468	46	15	0	12.3532	12.566	0	0	0
MH-3088	698.25	689.087	688.5766	46	17	0	9.6734	12.566	0	0	0
MH-3089	700.35	690.187	689.7451	46	16	0	10.6049	12.566	0	0	0
MH-3090	699.25	690.917	690.4206	46	15	0	8.8294	12.566	0	0	0
MH-320	660.66	644.41	644.2309	46	17	0	16.4291	12.566	0	0	0
MH-343	660.87	647.813	648.4567	46	17	0.6437	12.4133	12.566	0	0	0
MH-354	660.62	649.8863	651.8409	46	19	1.9546	8.7791	12.566	0	0	0
MH-355	666.12	652.1053	654.5731	46	20	2.4678	11.5469	12.566	0	0	0
MH-356	670.73	659.087	657.7105	46	20	0	13.0195	12.566	0	0	0
MH-357	662.42	655.81	651.8922	46	18	0	10.5278	12.566	0	0	0
MH-358	666.59	658.5	657.9282	46	19	0	8.6618	12.566	0	0	0
MH-374	666.5	657.5	658.6731	46	20	1.1731	7.8269	12.566	0	0	0
MH-375	664.75	657.12	658.4562	46	20	1.3362	6.2938	12.566	0	0	0
MH-396	668.15	656.737	658.7249	46	20	1.9879	9.4251	12.566	0	0	0
MH-4199	692.91	676.41	676.0086	46	15	0	16.9014	12.566	0	0	0
MH-466	675.12	663.207	662.6612	43	4	0	12.4588	12.566	0	0	0
MH-467	681.52	672.087	669.1756	46	15	0	12.3444	12.566	0	0	0
MH-468	689.87	679.287	678.7772	46	15	0	11.0928	12.566	0	0	0
MH-470	672.35	661.017	660.55	46	17	0	11.8	12.566	0	0	0
MH-471	681.46	670.297	669.7674	46	15	0	11.6926	12.566	0	0	0
MH-472	682.45	673.287	672.7774	46	15	0	9.6726	12.566	0	0	0
MH-5152	670.49	658.6493	660.8174	46	20	2.1681	9.6726	12.566	0	0	0
MH-5174	665.92	655.3533	658.1956	46	20	2.8423	7.7244	12.566	0	0	0
MH-5568	658.82	646.99	646.6335	46	17	0	12.1865	12.566	0	0	0
MH-5571	661.85	648.81	648.4512	46	17	0	13.3988	12.566	0	0	0
MH-5572	665.87	652.87	651.7555	46	16	0	14.1145	12.566	0	0	0
MH-5574	665.94	653.05	652.5549	46	16	0	13.3851	12.566	0	0	0
MH-5724	677.33	667.3333	668.847	46	22	1.5137	8.483	12.566	0	0	0
MH-6069	660.42	645.72	646.5793	46	17	0.8593	13.8407	12.566	0	0	0
MH-6075	681.16	666.16	665.6295	45	39	0	15.5305	12.566	0	0	0
MH-6090	662.05	649.4	648.8672	46	17	0	13.1828	12.566	0	0	0
MH-6092	682.68	670.347	669.787	46	15	0	12.893	12.566	0	0	0
MH-6168	663.92	650.467	650.2126	46	18	0	13.7074	12.566	0	0	0
MH-669	681.05	670.713	671.4026	46	24	0.6896	9.6474	12.566	0	0	0
MH-670	689.72	671.887	671.4527	46	24	0	18.2673	12.566	0	0	0
MH-671	696.64	672.887	672.4165	46	15	0	24.2235	12.566	0	0	0
MH-672	678.61	668.443	670.0934	46	22	1.6504	8.5166	12.566	0	0	0
MH-673	683.22	674.887	674.3394	44	42	0	8.8806	12.566	0	0	0
MH-674	690.96	681.627	681.1071	46	15	0	9.8529	12.566	0	0	0
MH-871	679.09	670.11	669.6084	46	15	0	9.4816	12.566	0	0	0
MH-877	685.75	674.587	674.0985	46	15	0	11.6515	12.566	0	0	0
MH-879	676.54	666.487	667.4615	46	19	0.9745	9.0785	12.566	0	0	0
MH-884	681.49	672.087	665.6321	46	19	0	15.8579	12.566	0	0	0
MH-886	687.77	677.107	676.5865	46	16	0	11.1835	12.566	0	0	0
MH-887	688.81	682.057	681.5353	46	15	0	7.2747	12.566	0	0	0
MH-937	680.8	672.227	672.8738	46	25	0.6468	7.9262	12.566	0	0	0
MH-938	682.09	674.177	674.0056	46	25	0	8.0844	12.566	0	0	0
MH-940	695.96	688.957	688.354	46	15	0	7.606	12.566	0	0	0
MH-943	682.72	674.344	673.8514	46	16	0	8.8686	12.566	0	0	0
MH-944	686.14	678.35	677.8779	46	15	0	8.2621	12.566	0	0	0
MH-946	691.27	682.357	681.877	46	15	0	9.393	12.566	0	0	0
MH-961	679.46	668.457	667.9588	46	16	0	11.5012	12.566	0	0	0
MH-962	689.04	680.457	679.8924	46	15	0	9.1476	12.566	0	0	0
MH-968	681.12	668.299	667.9325	46	17	0	13.1875	12.566	0	0	0
MH-969	680.17	669.087	668.7029	46	15	0	11.4671	12.566	0	0	0
MH-976	678.37	669.087	663.6008	46	18	0	14.7692	12.566	0	0	0
MH-983	680.15	663.1833	664.2914	46	19	1.1081	15.8586	12.566	0	0	0
MH-986	678.74	665.6333	666.6372	46	19	1.0039	12.1028	12.566	0	0	0
MH-991	681.04	671.747	670.7523	45	13	0	10.2877	12.566	0	0	0
MH-993	688.87	681.957	681.4664	46	15	0	7.4036	12.566	0	0	0
Node81	676.54	666.37	665.6223	46	20	0	10.9177	12.566	0	0	0
Node82	677	665.37	664.6216	46	20	0	12.3784	12.566	0	0	0

Table 19
50-Year Recurrence Interval Event - Pump Station/Storage Modeling Results
North Basin - Existing System

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends Upstream (ft)	Maximum Water Elevation at Pipe Ends Downstream (ft)	Ratio d/D US	Ratio d/D DS
P-485	2.4042	6.8805	8.004	0.3208	46	15	4.7407	46	15	0.1334	689.4055	682.3059	0.248	0.249
P-486	2.4128	6.9053	8.004	0.3211	46	16	4.7454	46	17	0.1331	682.3059	675.2242	0.249	0.276
P-487	1.8758	5.3683	8.004	0.3765	45	49	3.6501	45	49	0.2007	675.2242	671.4026	0.276	2.283
P-671	2.2315	4.0946	9.996	1.6187	46	28	3.909	43	1	0.7254	671.4026	670.0934	1.828	2.981
P-2983	2.1464	3.9385	9.996	2.1865	46	22	3.9944	42	50	1.0187	670.0934	668.847	2.981	2.818
P-2985	2.1526	3.9468	10	2.1865	46	22	3.9638	46	22	1.0157	668.847	667.4615	2.816	2.51
P-2981	1.5794	2.8958	10	2.0356	44	43	3.7007	44	43	1.2888	667.4615	666.6372	2.51	2.205
P-2979	1.5786	2.8943	10	2.0241	44	43	3.6756	44	43	1.2822	666.6372	665.6321	2.205	1.767
P-521	2.7918	5.1187	10	2.3572	45	13	5.3585	43	11	0.8443	665.6321	664.2914	1.767	2.33
P-522	2.792	5.119	10	2.36	47	32	5.099	43	5	0.8453	664.2914	662.8122	2.33	2.751
P-2909	3.4835	6.3869	10	2.8669	46	18	8.2211	0	2	0.823	662.8122	660.8174	2.751	3.602
P-2910	3.4831	6.3867	9.9996	2.8667	46	20	9.2551	0	2	0.823	660.8174	658.6731	3.602	4.204
P-2915	1.6178	2.9663	10	2.0734	42	50	4.8462	0	2	1.2816	658.6731	658.1956	4.204	4.411
P-2916	1.6183	2.9672	10	2.0641	42	50	3.8319	42	48	1.2754	658.1956	657.7105	4.411	4.609
P-195	2.7165	4.981	9.9996	2.9416	46	19	5.2748	46	19	1.0829	657.7105	654.5731	4.609	3.961
P-196	2.717	4.9819	9.9996	2.9417	46	21	5.2961	46	21	1.0827	654.5731	651.8409	3.961	3.346
P-506	1.43	4.0926	8.004	0.3055	46	15	3.0026	46	16	0.2136	684.1468	680.6967	0.34	0.265
P-507	2.0242	5.793	8.004	0.3049	46	17	4.1154	46	17	0.1506	680.6967	673.8945	0.265	0.262
P-501	1.3361	3.8238	8.004	0.2597	46	15	2.9026	46	16	0.1943	689.7124	688.1297	0.303	0.299
P-502	1.3293	3.8045	8.004	0.2594	46	16	2.6867	46	16	0.1951	688.1297	686.672	0.299	0.498
P-503	0.9141	2.6162	8.004	0.4414	46	18	2.5278	46	18	0.4829	686.672	685.8163	0.498	0.519
P-504	0.9016	2.5802	8.004	0.4408	46	20	2.4378	46	20	0.4889	685.8163	684.8996	0.519	0.464
P-899	1.2808	3.6656	8.004	0.1833	46	15	2.4798	46	15	0.1431	690.4206	689.7451	0.256	0.337
P-901	0.9056	2.5917	8.004	0.183	46	16	1.8368	46	17	0.2021	689.7451	688.5766	0.337	0.235
P-904	1.5122	4.3279	8.004	0.1828	46	17	3.1206	0	4	0.1209	688.5766	686.672	0.235	0.498
P-265	3.167	9.0637	8.004	0.0612	46	15	2.4476	46	15	0.0193	688.354	683.36	0.096	0.315
P-266	3.1056	8.8879	8.004	0.6675	46	18	6.3862	45	50	0.2149	683.36	674.0056	0.315	0.743
P-505	1.2636	3.6163	8.004	0.6632	46	29	3.3008	45	45	0.5249	674.0056	673.681	0.743	1.789
P-267	1.2628	3.6141	8.004	1.1243	46	24	3.806	45	18	0.8903	673.681	672.8738	1.789	1.97
P-268	1.2635	3.6161	8.004	1.1245	46	26	3.7073	44	46	0.89	672.8738	671.4026	1.97	2.283
P-261	0.9951	2.848	8.004	0.1843	46	16	2.1456	46	16	0.1852	672.4165	671.4527	0.295	0.349
P-262	0.7876	2.254	8.004	0.2101	47	10	1.3453	44	46	0.2668	671.4527	671.4026	1.218	2.523
P-269	2.1639	6.1929	8.004	0.3669	46	15	4.5461	46	15	0.1696	681.877	677.8779	0.28	0.292
P-270	2.1636	6.1921	8.004	0.367	46	15	4.3827	46	16	0.1696	677.8779	673.8514	0.292	0.261
P-271	2.1638	6.1925	8.004	0.3827	44	41	4.0731	44	41	0.1769	673.8514	670.0934	0.261	3.723
P-263	2.5185	7.2078	8.004	0.214	46	15	4.1037	44	42	0.085	681.1071	674.3393	0.221	0.179
P-264	2.5251	7.2266	8.004	0.2788	44	42	3.9842	44	42	0.1104	674.3394	670.0934	0.179	3.723
P-272	3.2315	9.2483	8.004	0.1654	46	15	4.3928	46	15	0.0512	679.8924	667.9588	0.154	0.253
P-273	1.2929	3.7002	8.004	0.165	46	16	2.1378	42	35	0.1276	667.9588	667.4615	0.253	2.461
P-259	1.941	5.5551	8.004	0.2973	46	15	3.9582	46	15	0.1532	674.0985	669.6191	0.268	0.264
P-260	1.9413	5.5558	8.004	0.2973	46	16	3.4125	42	36	0.1531	669.6084	667.4615	0.248	2.461
P-278	1.8801	5.3806	8.004	0.2808	46	15	3.802	46	15	0.1493	681.4664	677.5938	0.264	0.261
P-277	2.4706	7.0705	8.004	0.2806	46	16	4.6145	46	16	0.1136	677.5737	670.7523	0.23	0.228
P-283	2.1307	6.0978	8.004	0.3293	45	13	3.8316	45	13	0.1546	670.7523	665.6321	0.228	2.207
P-284	2.9795	8.5271	8.004	0	0	0	0	0	0	0	670.7523	670.7523	0	0
P-257	1.9186	5.4908	8.004	0.1982	46	15	3.5171	46	15	0.1033	681.5353	676.5865	0.218	0.22
P-258	1.9321	5.5295	8.004	0.1978	46	16	3.484	46	17	0.1024	676.5865	671.5636	0.22	0.215
P-308	3.0003	8.5867	8.004	0.281	46	15	4.9164	46	15	0.0937	679.3379	670.4422	0.207	0.333
P-311	1.201	3.4372	8.004	0.2803	46	16	2.7552	46	17	0.2334	670.4422	668.639	0.333	0.328
P-276	1.202	3.4401	8.004	0.2797	46	17	2.55	43	17	0.2327	663.6008	662.8122	0.346	2.087
P-275	0.8076	2.3113	8.004	0.2963	46	18	1.9818	46	18	0.3669	667.9325	667.0715	0.451	0.377
P-208	2.2051	6.3109	8.004	0.2641	46	15	4.2082	46	15	0.1198	678.7772	671.5756	0.236	0.233
P-207	2.6764	7.6596	8.004	0.2642	46	16	4.4163	46	16	0.0987	669.1756	662.6612	0.233	0.182
P-205	2.6816	7.6744	8.004	0.2931	43	4	16.5301	0	2	0.1093	662.6612	658.7249	0.182	3.98
P-204	0.9306	2.6633	8.004	0.265	48	10	1.7976	42	31	0.2848	658.7249	658.6731	3.98	4.757
P-199	0.9548	2.7327	8.004	-0.4337	46	20	-1.2977	46	20	-0.4542	658.007	658.4562	0.46	3.003
P-202	0.9429	2.6985	8.004	-0.4337	46	20	-1.2135	46	20	-0.4599	658.4562	658.6731	3.003	4.757
P-211	2.2668	6.4873	8.004	0.2479	46	15	4.0049	46	15	0.1093	672.7774	669.7674	0.236	0.206
P-209	2.6625	7.62	8.004	0.2477	46	15	4.4585	46	15	0.093	669.7674	660.55	0.206	0.3
P-210	1.3029	3.7288	8.004	0.2472	46	17	2.8969	0	2	0.1897	660.55	658.6165	0.3	0.295
P-3077	21.7997	12.3361	18	17.093	46	15	12.6213	45	39	0.7841	676.0086	665.6295	0.732	0.646
P-3073	26.1881	14.8194	18	17.0966	46	15	14.2274	46	16	0.6528	665.6295	652.5549	0.646	0.67
P-3067	15.7527	8.9142	18	12.5554	45	45	7.8146	42	28	0.797	652.5549	648.4567	1.797	2.611
P-3069	5.5605	3.1466	18	12.1755	46	17	6.8244	46	17	2.1896	648.4567	646.5793	2.611	1.573
P-3070	11.0648	6.2614	18	12.1756	46	17	6.914	46	17	1.1004	646.5793	644.2309	1.573	0.881
P-3088	3.55	10.1599	8.004	0.1983	46	15	4.0659	43	9	0.0558	669.787	651.8922	0.16	0.588
P-3092	1.4511	4.1529	8.004	0.9083	46	18	4.2254	46	18	0.626	651.8922	650.2126	0.588	0.619
P-3093	1.443	4.1297	8.004	0.9085	46	19	3.7778	46	24	0.6296	650.2126	648.8672	0.619	1.12
P-17061	13.1123	10.6849	15	3.8525	46	20	5.5981	47	9	0.2938	648.8672	648.4512	0.574	0.713
P-2956	9.9182	5.6125	18	4.5389	46	16	3.736	46	16	0.4576	652.5549	652.0823	0.67	0.475
P-2957	14.0776	7.9663	18	4.5365	46	16	6.1093	46	16	0.3222	651.7555	648.4512	0.39	0.901
P-2958	8.7309	4.9407	18	8.7287	46	17	5.286	46	19	0.9998	648.4512	646.6335	0.901	0.762
P-197	1.6823	3.0846	9.9996	2.9419	46	21	5.3562	46	26	1.7488	651.8409	648.8672	3.346	0.897
P-274	0.8077	2.3116	8.004	0.2973	46	15	2.091	46	15	0.3681	668.7029	667.9325	0.424	0.451
P-2917	1.6007	2.9584	9.96	1.3576	43	7	3.0745	43	1	0.8481	658.6731	657.7105	2.413	2.82
P-198	3.6852	6.811	9.96	0.7115	46	19	4.9843	46	19	0.1931	657.9282	655.2268	0.311	0.297
P-1000	3.0205	5.5424	9.996	-0.7872	42	57	4.1527	48	5	-0.2606	648.4512	648.4567	1.226	1.773
Link85	5.9547	7.5817	12	0.8298	46	20	5.3317	46	20	0.1394	665.6223	664.6216	0.252	0.252
Weir #1	Undefnd	Undefnd	Undefn	0.8301	46	19								
FREE # 1	Undefnd	Undefnd	Undefn	12.1756	46	17								
FREE # 2	Undefnd	Undefnd	Undefn	8.7287	46	17								
FREE # 3	Undefnd	Undefnd	Undefn	0.8298	46	20								

Table 20
50-Year Recurrence Interval Event - Pump Station/Storage Modeling Results
North Basin - Existing System with 15" Pipe on Pershing Blvd.

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-1002	688.01	679.257	678.59	0	0	0	9.42	12.566	0	0	0
MH-1003	680.47	670.887	670.4422	46	16	0	10.0278	12.566	0	0	0
MH-1004	686.45	679.867	679.3379	46	15	0	7.1121	12.566	0	0	0
MH-16339	678.6	678.087	677.5717	46	16	0	1.0283	12.566	0	0	0
MH-16365	694.8	686.137	685.8163	46	20	0	8.9837	12.566	0	0	0
MH-16366	692.73	685.257	683.36	46	18	0	9.37	12.566	0	0	0
MH-16369	677.35	667.487	661.9518	46	21	0	15.3982	12.566	0	0	0
MH-1822	687.46	675.707	675.2242	45	48	0	12.2358	12.566	0	0	0
MH-1823	692.89	682.807	682.306	46	15	0	10.584	12.566	0	0	0
MH-1824	700.02	689.907	689.4055	46	15	0	10.6145	12.566	0	0	0
MH-1885	694.17	687.007	686.672	46	18	0	7.498	12.566	0	0	0
MH-1886	697.35	688.597	688.1297	46	16	0	9.2203	12.566	0	0	0
MH-1888	698.76	690.177	689.7124	46	15	0	9.0476	12.566	0	0	0
MH-1891	682.47	674.387	673.671	46	24	0	8.799	12.566	0	0	0
MH-1893	690.94	681.187	680.6967	46	17	0	10.2433	12.566	0	0	0
MH-1895	696.5	684.587	684.1468	46	15	0	12.3532	12.566	0	0	0
MH-3088	698.25	689.087	688.5766	46	17	0	9.6734	12.566	0	0	0
MH-3089	700.35	690.187	689.7451	46	16	0	10.6049	12.566	0	0	0
MH-3090	699.25	690.917	690.4206	46	15	0	8.8294	12.566	0	0	0
MH-320	660.66	644.41	644.2322	46	17	0	16.4278	12.566	0	0	0
MH-343	660.87	647.813	648.4832	46	17	0.6702	12.3868	12.566	0	0	0
MH-354	660.62	650.303	649.8993	46	27	0	10.7207	12.566	0	0	0
MH-355	666.12	652.522	651.8758	46	19	0	14.2442	12.566	0	0	0
MH-356	670.73	659.087	654.4822	46	18	0	16.2478	12.566	0	0	0
MH-357	662.42	655.81	651.7514	46	16	0	10.6686	12.566	0	0	0
MH-358	666.59	658.5	657.8114	46	15	0	8.7786	12.566	0	0	0
MH-374	666.5	657.5	657.2301	46	21	0	9.2699	12.566	0	0	0
MH-375	664.75	657.12	657.2286	46	19	0.1086	7.5214	12.566	0	0	0
MH-396	668.15	656.737	657.3703	46	17	0.6333	10.7797	12.566	0	0	0
MH-4199	692.91	676.41	676.0091	46	15	0	16.9009	12.566	0	0	0
MH-466	675.12	663.207	662.6792	45	46	0	12.4408	12.566	0	0	0
MH-467	681.52	672.087	669.1758	46	14	0	12.3442	12.566	0	0	0
MH-468	689.87	679.287	678.7772	46	15	0	11.0928	12.566	0	0	0
MH-470	672.35	661.017	660.55	46	17	0	11.8	12.566	0	0	0
MH-471	681.46	670.297	669.7674	46	15	0	11.6926	12.566	0	0	0
MH-472	682.45	673.287	672.7774	46	15	0	9.6726	12.566	0	0	0
MH-5152	670.49	658.6493	659.681	46	22	1.0316	10.809	12.566	0	0	0
MH-5174	665.92	655.3533	655.9051	46	22	0.5517	10.0149	12.566	0	0	0
MH-5568	658.82	646.99	646.6413	46	17	0	12.1787	12.566	0	0	0
MH-5571	661.85	648.81	648.4794	46	17	0	13.3706	12.566	0	0	0
MH-5572	665.87	652.87	651.7578	46	16	0	14.1122	12.566	0	0	0
MH-5574	665.94	653.05	652.5594	46	16	0	13.3806	12.566	0	0	0
MH-5724	677.33	667.3333	668.8347	46	21	1.5014	8.4953	12.566	0	0	0
MH-6069	660.42	645.72	646.5944	46	17	0.8744	13.8256	12.566	0	0	0
MH-6075	681.16	666.16	665.6283	45	38	0	15.5317	12.566	0	0	0
MH-6090	662.05	649.4	648.895	46	18	0	13.155	12.566	0	0	0
MH-6092	682.68	670.347	669.787	46	15	0	12.893	12.566	0	0	0
MH-6168	663.92	650.467	650.0469	46	17	0	13.8731	12.566	0	0	0
MH-669	681.05	670.713	671.3918	46	24	0.6788	9.6582	12.566	0	0	0
MH-670	689.72	671.887	671.4415	46	24	0	18.2785	12.566	0	0	0
MH-671	696.64	672.887	672.4165	46	15	0	24.2235	12.566	0	0	0
MH-672	678.61	668.443	670.082	46	21	1.639	8.528	12.566	0	0	0
MH-673	683.22	674.887	674.3405	44	43	0	8.8795	12.566	0	0	0
MH-674	690.96	681.627	681.1072	46	15	0	9.8528	12.566	0	0	0
MH-871	679.09	670.11	669.608	46	15	0	9.482	12.566	0	0	0
MH-877	685.75	674.587	674.0985	46	15	0	11.6515	12.566	0	0	0
MH-879	676.54	666.487	667.4482	46	19	0.9612	9.0918	12.566	0	0	0
MH-884	681.49	672.087	665.2439	46	19	0	16.2461	12.566	0	0	0
MH-886	687.77	677.107	676.5865	46	16	0	11.1835	12.566	0	0	0
MH-887	688.81	682.057	681.5353	46	15	0	7.2747	12.566	0	0	0
MH-937	680.8	672.227	672.8635	46	24	0.6365	7.9365	12.566	0	0	0
MH-938	682.09	674.177	673.9992	46	25	0	8.0908	12.566	0	0	0
MH-940	695.96	688.957	688.354	46	15	0	7.606	12.566	0	0	0
MH-943	682.72	674.344	673.8511	46	16	0	8.8689	12.566	0	0	0
MH-944	686.14	678.35	677.878	46	15	0	8.262	12.566	0	0	0
MH-946	691.27	682.357	681.877	46	15	0	9.393	12.566	0	0	0
MH-961	679.46	668.457	667.9576	46	16	0	11.5024	12.566	0	0	0
MH-962	689.04	680.457	679.8924	46	15	0	9.1476	12.566	0	0	0
MH-968	681.12	668.299	667.9325	46	17	0	13.1875	12.566	0	0	0
MH-969	680.17	669.087	668.7029	46	15	0	11.4671	12.566	0	0	0
MH-976	678.37	669.087	663.5891	46	17	0	14.7809	12.566	0	0	0
MH-983	680.15	663.1833	663.6814	46	21	0.4981	16.4686	12.566	0	0	0
MH-986	678.74	665.6333	666.4565	46	19	0.8231	12.2835	12.566	0	0	0
MH-991	681.04	671.747	670.7634	46	16	0	10.2766	12.566	0	0	0
MH-993	688.87	681.957	681.4664	46	15	0	7.4036	12.566	0	0	0
Node81	676.54	666.37	665.5943	46	20	0	10.9457	12.566	0	0	0
Node82	677	665.37	664.5933	46	20	0	12.4067	12.566	0	0	0

Table 20
50-Year Recurrence Interval Event - Pump Station/Storage Modeling Results
North Basin - Existing System with 15" Pipe on Pershing Blvd.

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Proposed Pipe Diameter (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends: Upstream (ft)	Maximum Water Elevation at Pipe Ends: Downstream (ft)	Ratio d/D: US	Ratio d/D: DS
P-485	2.4042	6.8805	8.004		0.3208	46	15	4.7407	46	15	0.1334	689.4055	682.306	0.248	0.249
P-486	2.4128	6.9053	8.004		0.3211	46	16	4.7425	46	17	0.1331	682.306	675.2242	0.249	0.276
P-487	1.8758	5.3683	8.004		0.3763	45	50	3.649	45	50	0.2006	675.2242	671.3918	0.276	2.267
P-671	2.2315	4.0946	9.996		1.619	46	28	3.909	43	1	0.7255	671.3918	670.082	1.815	2.968
P-2983	2.1464	3.9385	9.996		2.187	46	21	3.9944	42	50	1.0189	670.082	668.8347	2.968	2.803
P-2985	2.1526	3.9468	10.000		2.187	46	22	3.9652	46	22	1.016	668.8347	667.4482	2.802	2.494
P-2981	1.5794	2.8958	10.000		2.1244	44	50	3.8617	44	50	1.345	667.4482	666.4565	2.494	1.988
P-2979	1.5786	2.8943	10.000		2.1237	44	50	3.9306	44	50	1.3453	666.4565	665.2439	1.988	1.301
P-521	2.7918	5.1187	10.000		2.5187	44	48	5.393	44	42	0.9022	665.2439	663.6814	1.301	1.598
P-522	2.792	5.119	10.000		2.5308	47	32	5.125	43	34	0.9064	663.6814	661.9518	1.598	1.718
P-2909	3.4835	6.3869	10.000		3.0406	46	21	8.2211	0	2	0.8729	661.9518	659.681	1.718	2.238
P-2910	3.4831	6.3867	10.000		3.0419	46	22	9.2551	0	2	0.8733	659.681	657.2301	2.238	2.472
P-2915	1.6178	2.9663	10.000		2.2139	46	21	4.8462	0	2	1.3684	657.2301	655.9051	2.472	1.662
P-2916	1.6183	2.9672	10.000		2.2136	46	22	4.1309	46	22	1.3678	655.9051	654.4822	1.662	0.735
P-195	8.01	6.5271	15.000	15	3.6144	46	19	6.076	46	19	0.4512	654.4822	651.8758	0.49	0.483
P-196	8.0114	6.5283	15.000	15	3.6086	46	19	5.8558	46	19	0.4504	651.8758	649.8993	0.483	0.677
P-506	1.43	4.0926	8.004		0.3055	46	15	3.0026	46	16	0.2136	684.1468	680.6967	0.34	0.265
P-507	2.0242	5.793	8.004		0.3049	46	17	4.1154	46	17	0.1506	680.6967	673.8945	0.265	0.262
P-501	1.3361	3.8238	8.004		0.2597	46	15	2.9026	46	16	0.1943	689.7124	688.1297	0.303	0.299
P-502	1.3293	3.8045	8.004		0.2594	46	16	2.6867	46	16	0.1951	688.1297	686.672	0.299	0.498
P-503	0.9141	2.6162	8.004		0.4414	46	18	2.5278	46	18	0.4829	686.672	685.8163	0.498	0.519
P-504	0.9016	2.5802	8.004		0.4408	46	20	2.4378	46	20	0.4889	685.8163	684.8996	0.519	0.464
P-899	1.2808	3.6656	8.004		0.1833	46	15	2.4798	46	15	0.1431	690.4206	689.7451	0.256	0.337
P-901	0.9056	2.5917	8.004		0.183	46	16	1.8368	46	17	0.2021	689.7451	688.5766	0.337	0.235
P-904	1.5122	4.3279	8.004		0.1828	46	17	3.1206	0	4	0.1209	688.5766	686.672	0.235	0.498
P-265	3.167	9.0637	8.004		0.0612	46	15	2.4476	46	15	0.0193	688.354	683.36	0.096	0.315
P-266	3.1056	8.8879	8.004		0.6675	46	18	6.3872	45	51	0.2149	683.36	673.9992	0.315	0.733
P-505	1.2636	3.6163	8.004		0.663	46	29	3.302	45	45	0.5247	673.9992	673.671	0.733	1.774
P-267	1.2628	3.6141	8.004		1.1244	46	24	3.8068	45	18	0.8904	673.671	672.8635	1.774	1.954
P-268	1.2635	3.6161	8.004		1.1246	46	26	3.7173	44	46	0.8901	672.8635	671.3918	1.954	2.267
P-261	0.9951	2.848	8.004		0.1839	46	17	2.1448	46	17	0.1848	672.4165	671.4415	0.295	0.332
P-262	0.7876	2.254	8.004		0.2098	47	10	1.3501	44	46	0.2664	671.4415	671.3918	1.202	2.506
P-269	2.1639	6.1929	8.004		0.3669	46	15	4.5461	46	15	0.1696	681.877	677.878	0.28	0.292
P-270	2.1636	6.1921	8.004		0.367	46	15	4.3801	46	16	0.1696	677.878	673.8511	0.292	0.261
P-271	2.1638	6.1925	8.004		0.3853	44	43	4.0828	44	43	0.1781	673.8511	670.082	0.261	3.706
P-263	2.5185	7.2078	8.004		0.214	46	15	4.1266	44	43	0.085	681.1072	674.3405	0.221	0.181
P-264	2.5251	7.2266	8.004		0.2823	44	43	4.0042	44	43	0.1118	674.3405	670.082	0.181	3.706
P-272	3.2315	9.2483	8.004		0.1654	46	15	4.4006	46	15	0.0512	679.8924	667.9576	0.154	0.251
P-273	1.2929	3.7002	8.004		0.165	46	16	2.1378	42	35	0.1276	667.9576	667.4482	0.251	2.441
P-259	1.941	5.5551	8.004		0.2973	46	15	3.9582	46	15	0.1532	674.0985	669.6191	0.268	0.264
P-260	1.9413	5.5558	8.004		0.2973	46	16	3.4125	42	36	0.1531	669.608	667.4482	0.247	2.441
P-278	1.8801	5.3806	8.004		0.2808	46	15	3.802	46	15	0.1493	681.4664	677.5938	0.264	0.261
P-277	2.4706	7.0705	8.004		0.2807	46	16	4.6388	46	15	0.1136	677.5717	670.7634	0.228	0.245
P-283	2.1307	6.0978	8.004		0.2805	46	16	2.9572	46	16	0.1317	670.7634	665.2439	0.245	1.625
P-284	2.9795	8.5271	8.004		0	0	0	0	0	0	0	670.7634	670.7634	0	0
P-257	1.9186	5.4908	8.004		0.1982	46	15	3.5171	46	15	0.1033	681.5353	676.5865	0.218	0.22
P-258	1.9321	5.5295	8.004		0.1978	46	16	3.484	46	17	0.1024	676.5865	671.5636	0.22	0.215
P-308	3.0003	8.5867	8.004		0.281	46	15	4.9164	46	15	0.0937	679.3379	670.4422	0.207	0.333
P-311	1.201	3.4372	8.004		0.2803	46	16	2.7552	46	17	0.2334	670.4422	668.639	0.333	0.328
P-276	1.202	3.4401	8.004		0.2802	46	17	2.6261	45	15	0.2331	663.5891	661.9518	0.328	0.797
P-275	0.8076	2.3113	8.004		0.2963	46	18	1.9818	46	18	0.3669	667.9325	667.0715	0.451	0.377
P-208	2.2051	6.3109	8.004		0.2641	46	15	4.2082	46	15	0.1198	678.7772	671.5756	0.236	0.233
P-207	2.6764	7.6596	8.004		0.2769	46	15	4.7699	46	17	0.1035	669.1758	662.6792	0.234	0.209
P-205	2.6816	7.6744	8.004		0.362	46	17	16.5301	0	2	0.135	662.6792	657.3703	0.209	1.95
P-204	0.9306	2.6633	8.004		0.3717	46	14	1.7965	42	31	0.3995	657.3703	657.2301	1.949	2.594
P-199	0.9548	2.7327	8.004		0.058	46	15	1.2772	42	42	0.0608	657.8114	657.2286	0.167	1.163
P-202	0.9429	2.6985	8.004		-0.1608	42	44	0.9316	42	25	-0.1705	657.2286	657.2301	1.163	2.594
P-211	2.2668	6.4873	8.004		0.2479	46	15	4.0049	46	15	0.1093	672.7774	669.7674	0.236	0.206
P-209	2.6625	7.62	8.004		0.2477	46	15	4.4585	46	15	0.093	669.7674	660.55	0.206	0.3
P-210	1.3029	3.7288	8.004		0.2472	46	17	2.8969	0	2	0.1897	660.55	658.6165	0.3	0.295
P-3077	21.7997	12.3361	18		17.0929	46	15	12.6174	45	38	0.7841	676.0091	665.6283	0.733	0.646
P-3073	26.1881	14.8194	18		17.0966	46	15	14.2324	46	16	0.6528	665.6283	652.5594	0.646	0.673
P-3067	15.7527	8.9142	18		12.5311	45	45	7.8146	42	28	0.7955	652.5594	648.4832	1.8	2.629
P-3069	5.5605	3.1466	18		12.2136	46	17	6.845	46	17	2.1965	648.4832	646.5944	2.629	1.583
P-3070	11.0648	6.2614	18		12.2136	46	17	6.9347	46	17	1.1038	646.5944	644.2322	1.583	0.881
P-3088	3.55	10.1599	8.004		0.1983	46	15	4.44	46	15	0.0558	669.787	651.7514	0.16	0.377
P-3092	1.4511	4.1529	8.004		0.4209	46	16	3.5023	46	17	0.29	651.7514	650.0469	0.377	0.37
P-3093	1.443	4.1297	8.004		0.4204	46	17	2.9519	46	15	0.2914	650.0469	648.895	0.37	1.162
P-17061	13.1123	10.6849	15		4.027	46	20	5.6208	47	10	0.3071	648.895	648.4794	0.596	0.735
P-2956	9.9182	5.6125	18		4.5715	46	16	3.7436	46	16	0.4609	652.5594	652.0853	0.673	0.477
P-2957	14.0776	7.9663	18		4.569	46	16	6.1078	46	16	0.3246	651.7578	648.4794	0.392	0.92
P-2958	8.7309	4.9407	18		8.8588	46	17	5.2887	46	20	1.0147	648.4794	646.6413	0.92	0.768
P-197	4.9604	4.0421	15	15	3.6027	46	20	4.1228	46	18	0.7263	649.8993	648.895	0.677	0.62
P-274	0.8077	2.3116	8.004		0.2973	46	15	2.091	46	15	0.3681	668.7029	667.9325	0.424	0.451
P-2917	1.6007	2.9584	9.96		1.163	46	22	3.0603	46	22	0.7266	657.2301	655.851	0.675	0.579
P-198	3.6852	6.811	9.96		0.2228	46	15	3.6445	46	15	0.0605	657.8114	655.1179	0.17	0.166
P-1000	3.0205	5.5424	9.996		-0.7872	42	57	4.0872	48	5	-0.2606	648.4794	648.4832	1.26	1.805
Link85	5.9547	7.5817	12		0.6559	46	20	4.9768	46	21	0.1101	665.5943	664.5933	0.224	0.223
Weir #1	Undefnd	Undefnd	Undefn		0.6563	46	19								
FREE # 1	Undefnd	Undefnd	Undefn		12.2136	46	17								
FREE # 2	Undefnd	Undefnd	Undefn		8.8587	46	17								
FREE # 3	Undefnd	Undefnd	Undefn		0.6559	46	20								

Table 21
100-Year Recurrence Interval Event - Pump Station/Storage Modeling Results
North Basin - Existing System

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-1002	688.01	679.257	678.59	0	0	0	9.42	12.566	0	0	0
MH-1003	680.47	670.887	670.4523	46	16	0	10.0177	12.566	0	0	0
MH-1004	686.45	679.867	679.3436	46	15	0	7.1064	12.566	0	0	0
MH-16339	678.6	678.087	677.5802	46	16	0	1.0198	12.566	0	0	0
MH-16365	694.8	686.137	685.8355	46	20	0	8.9645	12.566	0	0	0
MH-16366	692.73	685.257	683.3676	46	7	0	9.3624	12.566	0	0	0
MH-16369	677.35	667.487	663.0383	46	19	0	14.3117	12.566	0	0	0
MH-1822	687.46	675.707	675.2258	45	22	0	12.2342	12.566	0	0	0
MH-1823	692.89	682.807	682.3112	46	15	0	10.5788	12.566	0	0	0
MH-1824	700.02	689.907	689.4139	46	15	0	10.6061	12.566	0	0	0
MH-1885	694.17	687.007	686.6897	46	18	0	7.4803	12.566	0	0	0
MH-1886	697.35	688.597	688.1388	46	16	0	9.2112	12.566	0	0	0
MH-1888	698.76	690.177	689.7219	46	15	0	9.0381	12.566	0	0	0
MH-1891	682.47	674.387	674.6743	46	51	0.2873	7.7957	12.566	0	0	0
MH-1893	690.94	681.187	680.7028	46	16	0	10.2372	12.566	0	0	0
MH-1895	696.5	684.587	684.1581	46	15	0	12.3419	12.566	0	0	0
MH-3088	698.25	689.087	688.5835	46	17	0	9.6665	12.566	0	0	0
MH-3089	700.35	690.187	689.7555	46	16	0	10.5945	12.566	0	0	0
MH-3090	699.25	690.917	690.4286	46	15	0	8.8214	12.566	0	0	0
MH-320	660.66	644.41	644.2479	46	17	0	16.4121	12.566	0	0	0
MH-343	660.87	647.813	648.8175	46	17	1.0045	12.0525	12.566	0	0	0
MH-354	660.62	649.8863	651.9865	46	22	2.1002	8.6335	12.566	0	0	0
MH-355	666.12	652.1053	654.7332	46	20	2.6279	11.3868	12.566	0	0	0
MH-356	670.73	659.087	657.8869	46	20	0	12.8431	12.566	0	0	0
MH-357	662.42	655.81	651.9192	46	18	0	10.5008	12.566	0	0	0
MH-358	666.59	658.5	657.9432	46	18	0	8.6468	12.566	0	0	0
MH-374	666.5	657.5	658.841	46	20	1.341	7.659	12.566	0	0	0
MH-375	664.75	657.12	658.5672	46	20	1.4472	6.1828	12.566	0	0	0
MH-396	668.15	656.737	658.902	46	19	2.165	9.248	12.566	0	0	0
MH-4199	692.91	676.41	676.098	46	15	0	16.812	12.566	0	0	0
MH-466	675.12	663.207	662.6656	46	16	0	12.4544	12.566	0	0	0
MH-467	681.52	672.087	669.18	46	15	0	12.34	12.566	0	0	0
MH-468	689.87	679.287	678.7838	46	15	0	11.0862	12.566	0	0	0
MH-470	672.35	661.017	660.5589	46	17	0	11.7911	12.566	0	0	0
MH-471	681.46	670.297	669.7731	46	15	0	11.6869	12.566	0	0	0
MH-472	682.45	673.287	672.7843	46	15	0	9.6657	12.566	0	0	0
MH-5152	670.49	658.649	661.0157	46	20	2.3667	9.4743	12.566	0	0	0
MH-5174	665.92	655.353	658.3677	46	20	3.0147	7.5523	12.566	0	0	0
MH-5568	658.82	646.99	646.6928	46	17	0	12.1272	12.566	0	0	0
MH-5571	661.85	648.81	648.8241	46	17	0.0141	13.0259	12.566	0	0	0
MH-5572	665.87	652.87	651.8866	46	16	0	13.9834	12.566	0	0	0
MH-5574	665.94	653.05	652.7716	46	16	0	13.1684	12.566	0	0	0
MH-5724	677.33	667.333	669.0997	46	48	1.7667	8.2303	12.566	0	0	0
MH-6069	660.42	645.72	646.7841	46	17	1.0641	13.6359	12.566	0	0	0
MH-6075	681.16	666.16	665.6577	46	15	0	15.5023	12.566	0	0	0
MH-6090	662.05	649.4	648.9822	46	17	0	13.0678	12.566	0	0	0
MH-6092	682.68	670.347	669.7913	46	15	0	12.8887	12.566	0	0	0
MH-6168	663.92	650.467	650.2575	46	18	0	13.6625	12.566	0	0	0
MH-669	681.05	670.713	672.0631	46	49	1.3501	8.9869	12.566	0	0	0
MH-670	689.72	671.887	672.1226	46	50	0.2356	17.5974	12.566	0	0	0
MH-671	696.64	672.887	672.43	46	49	0	24.21	12.566	0	0	0
MH-672	678.61	668.443	670.5486	46	48	2.1056	8.0614	12.566	0	0	0
MH-673	683.22	674.887	674.3385	43	10	0	8.8815	12.566	0	0	0
MH-674	690.96	681.627	681.1106	46	15	0	9.8494	12.566	0	0	0
MH-871	679.09	670.11	669.619	46	15	0	9.471	12.566	0	0	0
MH-877	685.75	674.587	674.1063	46	15	0	11.6437	12.566	0	0	0
MH-879	676.54	666.487	667.4807	46	20	0.9937	9.0593	12.566	0	0	0
MH-884	681.49	672.087	665.7873	46	19	0	15.7027	12.566	0	0	0
MH-886	687.77	677.107	676.5928	46	16	0	11.1772	12.566	0	0	0
MH-887	688.81	682.057	681.5415	46	15	0	7.2685	12.566	0	0	0
MH-937	680.8	672.227	673.7505	46	50	1.5235	7.0495	12.566	0	0	0
MH-938	682.09	674.177	675.0317	46	50	0.8547	7.0583	12.566	0	0	0
MH-940	695.96	688.957	688.3566	46	15	0	7.6034	12.566	0	0	0
MH-943	682.72	674.344	673.8699	46	16	0	8.8501	12.566	0	0	0
MH-944	686.14	678.35	677.8819	45	45	0	8.2581	12.566	0	0	0
MH-946	691.27	682.357	681.8861	46	15	0	9.3839	12.566	0	0	0
MH-961	679.46	668.457	667.9705	46	16	0	11.4895	12.566	0	0	0
MH-962	689.04	680.457	679.8968	46	15	0	9.1432	12.566	0	0	0
MH-968	681.12	668.299	667.9473	46	17	0	13.1727	12.566	0	0	0
MH-969	680.17	669.087	668.7165	46	15	0	11.4535	12.566	0	0	0
MH-976	678.37	669.087	663.6381	46	19	0	14.7319	12.566	0	0	0
MH-983	680.15	663.183	664.4799	46	19	1.2969	15.6701	12.566	0	0	0
MH-986	678.74	665.633	666.7172	46	19	1.0842	12.0228	12.566	0	0	0
MH-991	681.04	671.747	670.7521	44	40	0	10.2879	12.566	0	0	0
MH-993	688.87	681.957	681.474	46	15	0	7.396	12.566	0	0	0
Node81	676.54	666.37	665.6619	46	21	0	10.8781	12.566	0	0	0
Node82	677	665.37	664.6614	46	21	0	12.3386	12.566	0	0	0

Table 21
100-Year Recurrence Interval Event - Pump Station/Storage Modeling Results
North Basin - Existing System

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends Upstream (ft)	Maximum Water Elevation at Pipe Ends Downstream (ft)	Ratio d/D US	Ratio d/D DS
P-485	2.4042	6.8805	8.004	0.3496	46	15	4.8299	46	15	0.1454	689.4139	682.3112	0.261	0.257
P-486	2.4128	6.9053	8.004	0.3495	46	16	4.8686	46	16	0.1449	682.3112	675.2258	0.257	0.279
P-487	1.8758	5.3683	8.004	0.3814	45	23	3.6661	45	23	0.2033	675.2258	672.0631	0.279	3.273
P-671	2.2315	4.0946	9.996	1.7487	46	53	3.9336	42	53	0.7837	672.0631	670.5486	2.621	3.528
P-2983	2.1464	3.9385	9.996	2.3638	46	48	4.2698	46	47	1.1013	670.5486	669.0997	3.528	3.121
P-2985	2.1504	3.9458	9.996	2.3638	46	48	4.2812	46	48	1.0993	669.0997	667.4807	3.121	2.534
P-2981	1.5777	2.8951	9.996	2.0737	43	13	3.7736	43	13	1.3143	667.4807	666.7172	2.534	2.302
P-2979	1.5769	2.8935	9.996	2.0628	43	13	3.7816	43	12	1.3082	666.7172	665.7873	2.302	1.954
P-521	2.7888	5.1173	9.996	2.374	43	12	5.373	43	1	0.8513	665.7873	664.4799	1.954	2.557
P-522	2.789	5.1177	9.996	2.3595	47	41	5.1083	42	56	0.846	664.4799	663.0383	2.557	3.023
P-2909	3.4798	6.3852	9.996	2.8889	46	18	8.2215	0	2	0.8302	663.0383	661.0157	3.023	3.841
P-2910	3.4798	6.3851	9.996	2.8884	46	19	9.2551	0	2	0.8301	661.0157	658.841	3.841	4.407
P-2915	1.6161	2.9655	9.996	2.0762	42	47	4.8441	0	2	1.2847	658.841	658.3677	4.407	4.619
P-2916	1.6166	2.9664	9.996	2.0639	42	47	3.8322	42	45	1.2767	658.3677	657.8869	4.619	4.822
P-195	2.7165	4.981	9.9996	2.9531	46	19	5.2902	45	56	1.0871	657.8869	654.7332	4.821	4.154
P-196	2.717	4.9819	9.9996	2.9546	46	27	5.3146	46	31	1.0875	654.7332	651.9865	4.154	3.52
P-506	1.43	4.0926	8.004	0.3329	46	15	3.0662	46	16	0.2328	684.1581	680.7028	0.357	0.274
P-507	2.0242	5.793	8.004	0.3325	46	16	4.2207	45	46	0.1643	680.7028	674.6743	0.274	1.431
P-501	1.3361	3.8238	8.004	0.283	46	15	2.9721	46	16	0.2118	689.7219	688.1388	0.318	0.313
P-502	1.3293	3.8045	8.004	0.2827	46	16	2.7512	46	16	0.2127	688.1388	686.6897	0.313	0.524
P-503	0.9141	2.6162	8.004	0.4811	46	18	2.5787	46	18	0.5263	686.6897	685.8355	0.524	0.548
P-504	0.9016	2.5802	8.004	0.4804	46	20	2.486	46	20	0.5328	685.8355	684.914	0.548	0.486
P-899	1.2808	3.6656	8.004	0.1998	46	15	2.5361	46	15	0.156	690.4286	689.7555	0.268	0.353
P-901	0.9056	2.5917	8.004	0.1994	46	16	1.8825	46	17	0.2202	689.7555	688.5835	0.353	0.245
P-904	1.5122	4.3279	8.004	0.1992	46	17	3.1206	0	4	0.1318	688.5835	686.6897	0.245	0.524
P-265	3.167	9.0637	8.004	0.0667	46	15	2.6705	46	15	0.0211	688.3566	683.3676	0.1	0.326
P-266	3.1056	8.8879	8.004	0.816	46	7	6.8636	46	7	0.2628	683.3676	675.0317	0.326	2.281
P-505	1.2636	3.6163	8.004	0.7451	46	8	3.3099	45	19	0.5897	675.0317	674.6743	2.281	3.278
P-267	1.2628	3.6141	8.004	1.2139	46	28	3.8117	44	47	0.9613	674.6743	673.7505	3.278	3.284
P-268	1.2635	3.6161	8.004	1.2145	46	53	3.7089	43	8	0.9612	673.7505	672.0631	3.284	3.273
P-261	0.9951	2.848	8.004	0.1977	46	15	2.1577	45	37	0.1986	672.43	672.1226	0.315	1.353
P-262	0.7876	2.254	8.004	0.2309	47	20	1.3264	43	12	0.2931	672.1226	672.0631	2.223	3.513
P-269	2.1639	6.1929	8.004	0.3998	46	15	4.6527	46	15	0.1848	681.8861	677.8819	0.294	0.298
P-270	2.1636	6.1921	8.004	0.4	46	15	4.6101	46	16	0.1849	677.8819	673.8699	0.298	0.289
P-271	2.1638	6.1925	8.004	0.3994	46	16	4.0655	43	10	0.1846	673.8699	670.5486	0.289	4.406
P-263	2.5185	7.2078	8.004	0.2332	46	15	4.0867	43	10	0.0926	681.1106	674.3385	0.226	0.178
P-264	2.5251	7.2266	8.004	0.2736	43	11	3.9528	43	11	0.1083	674.3385	670.5486	0.178	4.406
P-272	3.2315	9.2483	8.004	0.1797	46	15	4.4768	46	15	0.0556	679.8968	667.9705	0.16	0.271
P-273	1.2929	3.7002	8.004	0.1792	46	16	2.1709	42	33	0.1386	667.9705	667.4807	0.271	2.49
P-259	1.941	5.5551	8.004	0.3231	46	15	4.0555	46	15	0.1664	674.1063	669.6269	0.279	0.276
P-260	1.9413	5.5558	8.004	0.323	46	15	3.4702	42	34	0.1664	669.619	667.4807	0.264	2.49
P-278	1.8801	5.3806	8.004	0.3051	46	15	3.8941	46	15	0.1623	681.474	677.6014	0.276	0.272
P-277	2.4706	7.0705	8.004	0.3049	46	16	4.7317	46	16	0.1234	677.5802	670.7581	0.24	0.237
P-283	2.1307	6.0978	8.004	0.3277	44	40	3.8242	44	40	0.1538	670.7521	665.7873	0.228	2.44
P-284	2.9795	8.5271	8.004	0	0	0	0	0	0	0	670.7521	670.7521	0	0
P-257	1.9186	5.4908	8.004	0.2154	46	15	3.6027	46	15	0.1123	681.5415	676.5928	0.227	0.229
P-258	1.9321	5.5295	8.004	0.215	46	16	3.5673	46	17	0.1113	676.5928	671.5697	0.229	0.224
P-308	3.0003	8.5867	8.004	0.3053	46	15	5.0335	46	15	0.1018	679.3436	670.4523	0.215	0.348
P-311	1.201	3.4372	8.004	0.3046	46	16	2.8175	46	17	0.2536	670.4523	668.6487	0.348	0.343
P-276	1.202	3.4401	8.004	0.3038	46	18	2.5824	43	5	0.2527	663.6381	663.0383	0.402	2.426
P-275	0.8076	2.3113	8.004	0.322	46	18	2.0236	46	18	0.3987	667.9473	667.0828	0.473	0.394
P-208	2.2051	6.3109	8.004	0.287	46	15	4.3106	46	15	0.1301	678.7838	671.5824	0.246	0.243
P-207	2.6764	7.6596	8.004	0.287	46	16	4.5892	46	16	0.1073	669.18	662.6656	0.24	0.188
P-205	2.6816	7.6744	8.004	0.3105	42	57	16.5301	0	2	0.1158	662.6656	658.902	0.188	4.246
P-204	0.9306	2.6633	8.004	0.2858	46	17	1.812	42	30	0.3072	658.902	658.841	4.246	5.009
P-199	0.9548	2.7327	8.004	-0.4879	46	20	-1.4529	46	20	-0.511	658.0266	658.5672	0.49	3.17
P-202	0.9429	2.6985	8.004	-0.4879	46	20	-1.3633	46	20	-0.5175	658.5672	658.841	3.17	5.009
P-211	2.2668	6.4873	8.004	0.2693	46	15	4.0978	46	15	0.1188	672.7843	669.7731	0.246	0.215
P-209	2.6625	7.62	8.004	0.2691	46	15	4.5653	46	15	0.1011	669.7731	660.5589	0.215	0.313
P-210	1.3029	3.7288	8.004	0.2686	46	17	2.8969	0	2	0.2061	660.5589	658.6252	0.313	0.308
P-3077	21.7997	12.3361	18	18.4957	46	15	12.6259	45	13	0.8484	676.098	665.6577	0.792	0.665
P-3073	26.1881	14.8194	18	18.4963	46	15	14.4892	46	16	0.7063	665.6577	652.7716	0.665	0.814
P-3067	15.7527	8.9142	18	12.5774	45	14	7.8158	42	27	0.7984	652.7716	648.8175	1.941	2.852
P-3069	5.5605	3.1466	18	12.6862	46	17	7.1004	46	17	2.2815	648.8175	646.7841	2.852	1.709
P-3070	11.0648	6.2614	18	12.6863	46	17	7.1921	46	17	1.1465	646.7841	644.2479	1.709	0.892
P-3088	3.55	10.1599	8.004	0.2154	46	15	4.1394	43	1	0.0607	669.7913	651.9192	0.167	0.629
P-3092	1.4511	4.1529	8.004	1.0037	46	18	4.2967	46	19	0.6917	651.9192	650.2575	0.629	0.686
P-3093	1.443	4.1297	8.004	1.0041	46	19	3.803	46	24	0.6959	650.2575	648.9822	0.686	1.293
P-17061	13.1123	10.6849	15	3.9619	46	20	5.5997	47	16	0.3022	648.9822	648.8241	0.666	1.011
P-2956	9.9182	5.6125	18	6.1406	46	16	4.1207	46	16	0.6191	652.7716	652.2242	0.814	0.569
P-2957	14.0776	7.9663	18	6.1377	46	16	6.562	46	16	0.436	651.8866	648.8241	0.478	1.149
P-2958	8.7309	4.9407	18	9.7173	46	17	5.3419	46	17	1.113	648.8241	646.6928	1.149	0.802
P-197	1.6823	3.0846	9.9996	2.9578	46	25	5.3665	47	9	1.7583	651.9865	648.9822	3.52	1.035
P-274	0.8077	2.3116	8.004	0.3231	46	15	2.1354	46	16	0.4	668.7165	667.9473	0.445	0.473
P-2917	1.6007	2.9584	9.96	1.3724	43	59	3.085	42	56	0.8574	658.841	657.8869	2.616	3.032
P-198	3.6852	6.811	9.96	0.7898	46	19	5.1199	46	19	0.2143	657.9432	655.2407	0.329	0.314
P-1000	3.0205	5.5424	9.996	-0.8101	42	48	4.2823	48	10	-0.2682	648.8241	648.8175	1.674	2.206
Link85	5.9547	7.5817	12	1.105	46	21	5.7887	46	22	0.1856	665.6619	664.6614	0.292	0.291
Weir #1	Undefnd	Undefnd	Undefn	1.1052	46	20								
FREE # 1	Undefnd	Undefnd	Undefn	12.6863	46	17								
FREE # 2	Undefnd	Undefnd	Undefn	9.7173	46	17								
FREE # 3	Undefnd	Undefnd	Undefn	1.105	46	21								

Table 22
100-Year Recurrence Interval Event - Pump Station/Storage Modeling Results
North Basin - Existing System with 15" Pipe on Pershing Blvd.

Junction Name	Ground Elevation (ft)	Uppermost Pipe Crown Elevation (ft)	Maximum Junction Elevation (ft)	Time of Occurrence (Hour)	Time of Occurrence (min)	Feet of Surcharge @ Max Elevation	Freeboard of Node (ft)	Maximum Junction Area (sq ft)	Maximum Gutter Depth (ft)	Maximum Gutter Width (ft)	Maximum Gutter Velocity (ft/sec)
MH-1002	688.01	679.257	678.59	0	0	0	9.42	12.566	0	0	0
MH-1003	680.47	670.887	670.4523	46	16	0	10.0177	12.566	0	0	0
MH-1004	686.45	679.867	679.3436	46	15	0	7.1064	12.566	0	0	0
MH-16339	678.6	678.087	677.5802	46	16	0	1.0198	12.566	0	0	0
MH-16365	694.8	686.137	685.8355	46	20	0	8.9645	12.566	0	0	0
MH-16366	692.73	685.257	683.3677	46	7	0	9.3623	12.566	0	0	0
MH-16369	677.35	667.487	662.1055	46	21	0	15.2445	12.566	0	0	0
MH-1822	687.46	675.707	675.2258	45	23	0	12.2342	12.566	0	0	0
MH-1823	692.89	682.807	682.3113	46	15	0	10.5787	12.566	0	0	0
MH-1824	700.02	689.907	689.4139	46	15	0	10.6061	12.566	0	0	0
MH-1885	694.17	687.007	686.6897	46	18	0	7.4803	12.566	0	0	0
MH-1886	697.35	688.597	688.1388	46	16	0	9.2112	12.566	0	0	0
MH-1888	698.76	690.177	689.7219	46	15	0	9.0381	12.566	0	0	0
MH-1891	682.47	674.387	674.6617	46	51	0.2747	7.8083	12.566	0	0	0
MH-1893	690.94	681.187	680.7028	46	16	0	10.2372	12.566	0	0	0
MH-1895	696.5	684.587	684.1581	46	15	0	12.3419	12.566	0	0	0
MH-3088	698.25	689.087	688.5835	46	17	0	9.6665	12.566	0	0	0
MH-3089	700.35	690.187	689.7555	46	16	0	10.5945	12.566	0	0	0
MH-3090	699.25	690.917	690.4286	46	15	0	8.8214	12.566	0	0	0
MH-320	660.66	644.41	644.2502	46	18	0	16.4098	12.566	0	0	0
MH-343	660.87	647.813	648.8673	46	17	1.0543	12.0027	12.566	0	0	0
MH-354	660.62	650.303	649.9094	46	20	0	10.7106	12.566	0	0	0
MH-355	666.12	652.522	651.8856	46	17	0	14.2344	12.566	0	0	0
MH-356	670.73	659.087	654.4912	46	17	0	16.2388	12.566	0	0	0
MH-357	662.42	655.81	651.7603	46	16	0	10.6597	12.566	0	0	0
MH-358	666.59	658.5	657.8171	46	15	0	8.7729	12.566	0	0	0
MH-374	666.5	657.5	657.2513	46	22	0	9.2487	12.566	0	0	0
MH-375	664.75	657.12	657.2516	46	23	0.1316	7.4984	12.566	0	0	0
MH-396	668.15	656.737	657.3922	46	23	0.6552	10.7578	12.566	0	0	0
MH-4199	692.91	676.41	676.0985	46	15	0	16.8115	12.566	0	0	0
MH-466	675.12	663.207	662.6809	45	46	0	12.4391	12.566	0	0	0
MH-467	681.52	672.087	669.1842	46	15	0	12.3358	12.566	0	0	0
MH-468	689.87	679.287	678.7838	46	15	0	11.0862	12.566	0	0	0
MH-470	672.35	661.017	660.5589	46	17	0	11.7911	12.566	0	0	0
MH-471	681.46	670.297	669.7731	46	15	0	11.6869	12.566	0	0	0
MH-472	682.45	673.287	672.7843	46	15	0	9.6657	12.566	0	0	0
MH-5152	670.49	658.649	659.7719	46	20	1.1229	10.7181	12.566	0	0	0
MH-5174	665.92	655.353	655.9137	46	22	0.5607	10.0063	12.566	0	0	0
MH-5568	658.82	646.99	646.6976	46	18	0	12.1224	12.566	0	0	0
MH-5571	661.85	648.81	648.8795	46	17	0.0695	12.9705	12.566	0	0	0
MH-5572	665.87	652.87	651.8957	46	16	0	13.9743	12.566	0	0	0
MH-5574	665.94	653.05	652.7792	46	16	0	13.1608	12.566	0	0	0
MH-5724	677.33	667.333	669.0867	46	48	1.7537	8.2433	12.566	0	0	0
MH-6069	660.42	645.72	646.8123	46	18	1.0923	13.6077	12.566	0	0	0
MH-6075	681.16	666.16	665.6569	46	15	0	15.5031	12.566	0	0	0
MH-6090	662.05	649.4	649.041	46	18	0	13.009	12.566	0	0	0
MH-6092	682.68	670.347	669.7913	46	15	0	12.8887	12.566	0	0	0
MH-6168	663.92	650.467	650.0704	46	17	0	13.8496	12.566	0	0	0
MH-669	681.05	670.713	672.0503	46	49	1.3373	8.9997	12.566	0	0	0
MH-670	689.72	671.887	672.1098	46	50	0.2228	17.6102	12.566	0	0	0
MH-671	696.64	672.887	672.4283	46	48	0	24.2117	12.566	0	0	0
MH-672	678.61	668.443	670.5357	46	48	2.0927	8.0743	12.566	0	0	0
MH-673	683.22	674.887	674.3385	43	10	0	8.8815	12.566	0	0	0
MH-674	690.96	681.627	681.1106	46	15	0	9.8494	12.566	0	0	0
MH-871	679.09	670.11	669.6186	46	15	0	9.4714	12.566	0	0	0
MH-877	685.75	674.587	674.1063	46	15	0	11.6437	12.566	0	0	0
MH-879	676.54	666.487	667.4674	46	21	0.9804	9.0726	12.566	0	0	0
MH-884	681.49	672.087	665.3786	46	9	0	16.1114	12.566	0	0	0
MH-886	687.77	677.107	676.5928	46	16	0	11.1772	12.566	0	0	0
MH-887	688.81	682.057	681.5415	46	15	0	7.2685	12.566	0	0	0
MH-937	680.8	672.227	673.7378	46	50	1.5108	7.0622	12.566	0	0	0
MH-938	682.09	674.177	675.0191	46	50	0.8421	7.0709	12.566	0	0	0
MH-940	695.96	688.957	688.3566	46	15	0	7.6034	12.566	0	0	0
MH-943	682.72	674.344	673.8696	46	16	0	8.8504	12.566	0	0	0
MH-944	686.14	678.35	677.882	45	45	0	8.258	12.566	0	0	0
MH-946	691.27	682.357	681.8861	46	15	0	9.3839	12.566	0	0	0
MH-961	679.46	668.457	667.9693	46	16	0	11.4907	12.566	0	0	0
MH-962	689.04	680.457	679.8968	46	15	0	9.1432	12.566	0	0	0
MH-968	681.12	668.299	667.9473	46	17	0	13.1727	12.566	0	0	0
MH-969	680.17	669.087	668.7165	46	15	0	11.4535	12.566	0	0	0
MH-976	678.37	669.087	663.5989	46	17	0	14.7711	12.566	0	0	0
MH-983	680.15	663.183	663.8219	46	19	0.6389	16.3281	12.566	0	0	0
MH-986	678.74	665.633	666.5271	46	9	0.8941	12.2129	12.566	0	0	0
MH-991	681.04	671.747	670.7681	45	48	0	10.2719	12.566	0	0	0
MH-993	688.87	681.957	681.474	46	15	0	7.396	12.566	0	0	0
Node81	676.54	666.37	665.6347	46	22	0	10.9053	12.566	0	0	0
Node82	677	665.37	664.634	46	22	0	12.366	12.566	0	0	0

Table 22
100-Year Recurrence Interval Event - Pump Station/Storage Modeling Results
North Basin - Existing System with 15" Pipe on Pershing Blvd.

Conduit Name	Design Flow (cfs)	Conduit Design Velocity (ft/sec)	Maximum Vertical Depth (in)	Proposed Pipe Diameter (in)	Maximum Computed Flow (cfs)	Time of Occurrence (hr)	Time of Occurrence (min)	Maximum Computed Velocity (ft/sec)	Time of Occurrence (hr)	Time of Occurrence (min)	Ratio of Max to Design Flow	Maximum Water Elevation at Pipe Ends Upstream (ft)	Maximum Water Elevation at Pipe Ends Downstream (ft)	Ratio d/D US	Ratio d/D DS
P-485	2.4042	6.8805	8.004		0.3496	46	15	4.8303	46	15	0.1454	689.4139	682.3113	0.261	0.257
P-486	2.4128	6.9053	8.004		0.3495	46	16	4.8686	46	16	0.1449	682.3113	675.2258	0.257	0.279
P-487	1.8758	5.3683	8.004		0.3814	45	23	3.6659	45	23	0.2033	675.2258	672.0503	0.279	3.254
P-671	2.2315	4.0946	9.996		1.7486	46	53	3.9336	42	53	0.7836	672.0503	670.5357	2.605	3.512
P-2983	2.1464	3.9385	9.996		2.3636	46	48	4.2699	46	48	1.1012	670.5357	669.0867	3.512	3.105
P-2985	2.1504	3.9458	9.996		2.3636	46	48	4.2813	46	48	1.0992	669.0867	667.4674	3.105	2.518
P-2981	1.5777	2.8951	9.996		2.1203	43	20	3.8574	43	20	1.3439	667.4674	666.5271	2.518	2.073
P-2979	1.5769	2.8935	9.996		2.1199	43	20	3.9286	43	19	1.3444	666.5271	665.3785	2.073	1.463
P-521	2.7888	5.1173	9.996		2.5054	43	18	5.3912	43	10	0.8984	665.3785	663.8219	1.463	1.767
P-522	2.789	5.1177	9.996		2.53	47	41	5.1218	47	49	0.9071	663.8219	662.1055	1.767	1.903
P-2909	3.4798	6.3852	9.996		3.0821	46	20	8.2215	0	2	0.8857	662.1055	659.7719	1.903	2.348
P-2910	3.4798	6.3851	9.996		3.083	46	21	9.2551	0	2	0.886	659.7719	657.2513	2.348	2.499
P-2915	1.6161	2.9655	9.996		2.2228	46	22	4.8441	0	2	1.3754	657.2513	655.9137	2.499	1.673
P-2916	1.6166	2.9664	9.996		2.2211	46	22	4.1428	46	22	1.3739	655.9137	654.4912	1.673	0.746
P-195	8.01	6.5271	15.000	15	3.7053	46	17	6.1112	46	18	0.4626	654.4912	651.8856	0.497	0.491
P-196	8.0114	6.5283	15.000	15	3.6997	46	18	5.8877	46	25	0.4618	651.8856	649.9094	0.491	0.685
P-506	1.43	4.0926	8.004		0.3329	46	15	3.0662	46	16	0.2328	684.1581	680.7028	0.357	0.274
P-507	2.0242	5.793	8.004		0.3325	46	16	4.2217	45	47	0.1643	680.7028	674.6617	0.274	1.412
P-501	1.3361	3.8238	8.004		0.283	46	15	2.9721	46	16	0.2118	689.7219	688.1388	0.318	0.313
P-502	1.3293	3.8045	8.004		0.2827	46	16	2.7512	46	16	0.2127	688.1388	686.6897	0.313	0.524
P-503	0.9141	2.6162	8.004		0.4811	46	18	2.5787	46	18	0.5263	686.6897	685.8355	0.524	0.548
P-504	0.9016	2.5802	8.004		0.4804	46	20	2.486	46	20	0.5328	685.8355	684.914	0.548	0.486
P-899	1.2808	3.6656	8.004		0.1998	46	15	2.5361	46	15	0.156	690.4286	689.7555	0.268	0.353
P-901	0.9056	2.5917	8.004		0.1994	46	16	1.8825	46	17	0.2202	689.7555	688.5835	0.353	0.245
P-904	1.5122	4.3279	8.004		0.1992	46	17	3.1206	0	4	0.1318	688.5835	686.6897	0.245	0.524
P-265	3.167	9.0637	8.004		0.0667	46	15	2.671	46	15	0.0211	688.3566	683.3677	0.1	0.326
P-266	3.1056	8.8879	8.004		0.8223	46	8	6.8805	46	8	0.2648	683.3677	675.0191	0.326	2.263
P-505	1.2636	3.6163	8.004		0.7488	46	8	3.3107	45	19	0.5926	675.0191	674.6617	2.263	3.259
P-267	1.2628	3.6141	8.004		1.2136	46	51	3.8125	45	13	0.9611	674.6617	673.7378	3.259	3.265
P-268	1.2635	3.6161	8.004		1.2144	46	53	3.7089	43	8	0.9611	673.7378	672.0503	3.265	3.254
P-261	0.9951	2.848	8.004		0.1979	46	15	2.1592	45	37	0.1988	672.4283	672.1098	0.312	1.334
P-262	0.7876	2.254	8.004		0.2309	47	20	1.327	43	15	0.2931	672.1098	672.0503	2.204	3.494
P-269	2.1639	6.1929	8.004		0.3998	46	15	4.6527	46	15	0.1848	681.8861	677.882	0.294	0.298
P-270	2.1636	6.1921	8.004		0.4	46	15	4.6071	46	16	0.1849	677.882	673.8696	0.298	0.289
P-271	2.1638	6.1925	8.004		0.3994	46	16	4.0535	43	10	0.1846	673.8696	670.5357	0.289	4.386
P-263	2.5185	7.2078	8.004		0.2332	46	15	4.087	43	10	0.0926	681.1106	674.3385	0.226	0.178
P-264	2.5251	7.2266	8.004		0.276	43	11	3.9696	43	11	0.1093	674.3385	670.5357	0.178	4.386
P-272	3.2315	9.2483	8.004		0.1797	46	15	4.4848	46	15	0.0556	679.8968	667.9693	0.16	0.269
P-273	1.2929	3.7002	8.004		0.1792	46	16	2.1706	42	33	0.1386	667.9693	667.4674	0.269	2.47
P-259	1.941	5.5551	8.004		0.3231	46	15	4.0555	46	15	0.1664	674.1063	669.6269	0.279	0.276
P-260	1.9413	5.5558	8.004		0.323	46	15	3.4699	42	34	0.1664	669.6186	667.4674	0.263	2.47
P-278	1.8801	5.3806	8.004		0.3051	46	15	3.8941	46	15	0.1623	681.474	677.6014	0.276	0.272
P-277	2.4706	7.0705	8.004		0.3049	46	16	4.7406	46	7	0.1234	677.5802	670.7681	0.24	0.252
P-283	2.1307	6.0978	8.004		0.3794	46	5	4.0394	45	52	0.1781	670.7681	665.3785	0.252	1.827
P-284	2.9795	8.5271	8.004		0	0	0	0	0	0	0	670.7681	670.7681	0	0
P-257	1.9186	5.4908	8.004		0.2154	46	15	3.6027	46	15	0.1123	681.5415	676.5928	0.227	0.229
P-258	1.9321	5.5295	8.004		0.215	46	16	3.5673	46	17	0.1113	676.5928	671.5697	0.229	0.224
P-308	3.0003	8.5867	8.004		0.3053	46	15	5.0335	46	15	0.1018	679.3436	670.4523	0.215	0.348
P-311	1.201	3.4372	8.004		0.3046	46	16	2.8175	46	17	0.2536	670.4523	668.6487	0.348	0.343
P-276	1.202	3.4401	8.004		0.3045	46	17	2.6118	44	41	0.2533	663.5989	662.1055	0.343	1.028
P-275	0.8076	2.3113	8.004		0.322	46	18	2.0236	46	18	0.3987	667.9473	667.0828	0.473	0.394
P-208	2.2051	6.3109	8.004		0.287	46	15	4.3105	46	15	0.1301	678.7838	671.5824	0.246	0.243
P-207	2.6764	7.6596	8.004		0.3029	46	15	4.822	46	15	0.1132	669.1842	662.6809	0.246	0.211
P-205	2.6816	7.6744	8.004		0.3722	46	13	16.5301	0	2	0.1388	662.6809	657.3922	0.211	1.982
P-204	0.9306	2.6633	8.004		0.379	46	7	1.8111	42	30	0.4073	657.3923	657.2513	1.982	2.626
P-199	0.9548	2.7327	8.004		0.0643	46	15	1.3033	42	40	0.0674	657.8171	657.2516	0.176	1.197
P-202	0.9429	2.6985	8.004		-0.1777	42	42	0.9355	42	25	-0.1884	657.2516	657.2513	1.197	2.626
P-211	2.2668	6.4873	8.004		0.2693	46	15	4.0978	46	15	0.1188	672.7843	669.7731	0.246	0.215
P-209	2.6625	7.62	8.004		0.2691	46	15	4.5653	46	15	0.1011	669.7731	660.5589	0.215	0.313
P-210	1.3029	3.7288	8.004		0.2686	46	17	2.8969	0	2	0.2061	660.5589	658.6252	0.313	0.308
P-3077	21.7997	12.3361	18		18.4956	46	15	12.6222	45	13	0.8484	676.0985	665.6569	0.792	0.665
P-3073	26.1881	14.8194	18		18.4965	46	15	14.4908	46	16	0.7063	665.6569	652.7792	0.665	0.819
P-3067	15.7527	8.9142	18		12.5555	45	14	7.8158	42	27	0.797	652.7792	648.8673	1.946	2.885
P-3069	5.5605	3.1466	18		12.7554	46	18	7.1377	46	18	2.2939	648.8673	646.8123	2.885	1.728
P-3070	11.0648	6.2614	18		12.7554	46	18	7.2297	46	18	1.1528	646.8123	644.2502	1.728	0.893
P-3088	3.55	10.1599	8.004		0.2154	46	15	4.5615	46	15	0.0607	669.7913	651.7603	0.167	0.39
P-3092	1.4511	4.1529	8.004		0.4559	46	16	3.5898	46	16	0.3142	651.7603	650.0704	0.39	0.405
P-3093	1.443	4.1297	8.004		0.4553	46	17	2.963	45	42	0.3155	650.0704	649.041	0.405	1.381
P-17061	13.1123	10.6849	15		4.1722	46	22	5.6226	47	17	0.3182	649.041	648.8795	0.713	1.056
P-2956	9.9182	5.6125	18		6.1978	46	16	4.1349	46	16	0.6249	652.7792	652.2292	0.819	0.573
P-2957	14.0776	7.9663	18		6.1931	46	16	6.5415	46	16	0.4399	651.8957	648.8795	0.484	1.186
P-2958	8.7309	4.9407	18		9.8082	46	18	5.4199	46	18	1.1234	648.8795	646.6976	1.186	0.805
P-197	4.9604	4.0421	15	15	3.6986	46	22	4.1584	46	31	0.7456	649.9094	649.041	0.685	0.737
P-274	0.8077	2.3116	8.004		0.3231	46	15	2.1354	46	16	0.4	668.7165	667.9473	0.445	0.473
P-2917	1.6007	2.9584	9.96		1.2224	46	22	3.0868	46	23	0.7637	657.2513	655.8639	0.7	0.595
P-198	3.6852	6.811	9.96		0.2408	46	15	3.7206	46	15	0.0653	657.8171	655.123	0.177	0.172
P-1000	3.0205	5.5424	9.996		-0.8024	42	47	4.2154	48	10	-0.2656	648.8795	648.8673	1.74	2.266
Link85	5.9547	7.5817	12		0.9122	46	22	5.4782	46	22	0.1532	665.6347	664.634	0.265	0.264
Weir #1	Undefnd	Undefnd	Undefn		0.9124	46	21								
FREE # 1	Undefnd	Undefnd	Undefn		12.7554	46	18								
FREE # 2	Undefnd	Undefnd	Undefn		9.8082	46	18								
FREE # 3	Undefnd	Undefnd	Undefn		0.9122	46	22								