Green Valley Special Utility District
Drainage Basin B - 1 EDU/acre
Engineer's Opinion of Probable Costs

B

Item	Description	Unit	Quantity	Unit Price	Total Costs
1	12" SDR 35, PVC (0'-6' cut)	LF	0	$ 60.00	$ -
2	15" SDR 35, PVC (0'-6' cut)	LF	2,600	$ 65.00	$ 169,000.00
3	18" SDR 35, PVC (0'-6' cut)	LF	5,600	$ 70.00	$ 392,000.00
4	21" SDR 35, PVC (0'-6' cut)	LF	7,000	$ 80.00	$ 560,000.00
5	24" SDR 35, PVC (0'-6' cut)	LF	5,000	$ 90.00	$ 450,000.00
6	27" SDR 35, PVC (0'-6' cut)	LF	0	$ 100.00	$ -
7	30" SDR 35, PVC (0'-6' cut)	LF	0	$ 110.00	$ -
8	33" SDR 35, PVC (0'-6' cut)	LF	0	$ 125.00	$ -
9	36" SDR 35, PVC (0'-6' cut)	LF	0	$ 150.00	$ -
10	42" SDR 35, PVC (0'-6' cut)	LF	0	$ 200.00	$ -
11	48" SDR 35, PVC (0'-6' cut)	LF	0	$ 250.00	$ -
12	54" SDR 35, PVC (0'-6' cut)	LF	0	$ 300.00	$ -
13	60" SDR 35, PVC (0'-6' cut)	LF	0	$ 350.00	$ -
14	66" SDR 35, PVC (0'-6' cut)	LF	0	$ 400.00	$ -
15	72" SDR 35, PVC (0'-6' cut)	LF	0	$ 450.00	$ -
	Total Length	**LF**	**20,200**		
16	48" dia. M.H. W.T. & Bolted (0'-6' cut)	EA	40	$ 5,000.00	$ 202,000.00
17	Bore and Case Roadways	LF	1010	$ 130.00	$ 131,300.00
18	Bore and Case Creek Crossings	LF	808	$ 100.00	$ 80,800.00
19	Trench Safety	LF	20,200	$ 2.00	$ 40,400.00
20	Sewer Main Television Inspection	LF	20,200	$ 26.00	$ 525,200.00
21	Erosion Control Devices	LF	20,200	$ 1.00	$ 20,200.00
22	Sewer Junction Structure	EA	0	$ 35,000.00	$ -
23	Lift Station	EA	0	$ 200,000.00	$ -
	Total Construction				**$ 2,570,900.00**
	Contingencies	10%			$ 257,090.00
	Total				**$ 2,827,990.00**
	Easements	LF	20,200	$ 5.00	$ 101,000.00
	Easements and Surveys and Acquisition Costs	LF	20,200	$ 2.00	$ 40,400.00
	Environmental Investigation	LF	20,200	$ 1.50	$ 30,300.00
	Total Easement Costs				**$ 171,700.00**
	Basic Engineering	10%			$ 282,799.00
	Survey	LF	20,200	$ 2.00	$ 40,400.00
	Construction Phase Services	2%			$ 56,559.80
	Total Engineering Costs				**$ 379,758.80**
	Total Project Costs				**$ 3,379,448.80**

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Green Valley Special Utility District
Drainage Basin B - 3 EDU/acre
Engineer's Opinion of Probable Costs

B

Item	Description	Unit	Quantity	Unit Price	Total Costs
1	12" SDR 35, PVC (0'-6' cut)	LF	0	$ 60.00	$ -
2	15" SDR 35, PVC (0'-6' cut)	LF	0	$ 65.00	$ -
3	18" SDR 35, PVC (0'-6' cut)	LF	2,600	$ 70.00	$ 182,000.00
4	21" SDR 35, PVC (0'-6' cut)	LF	2,800	$ 80.00	$ 224,000.00
5	24" SDR 35, PVC (0'-6' cut)	LF	2,800	$ 90.00	$ 252,000.00
6	27" SDR 35, PVC (0'-6' cut)	LF	2,600	$ 100.00	$ 260,000.00
7	30" SDR 35, PVC (0'-6' cut)	LF	9,400	$ 110.00	$ 1,034,000.00
8	33" SDR 35, PVC (0'-6' cut)	LF	0	$ 125.00	$ -
9	36" SDR 35, PVC (0'-6' cut)	LF	0	$ 150.00	$ -
10	42" SDR 35, PVC (0'-6' cut)	LF	0	$ 200.00	$ -
11	48" SDR 35, PVC (0'-6' cut)	LF	0	$ 250.00	$ -
12	54" SDR 35, PVC (0'-6' cut)	LF	0	$ 300.00	$ -
13	60" SDR 35, PVC (0'-6' cut)	LF	0	$ 350.00	$ -
14	66" SDR 35, PVC (0'-6' cut)	LF	0	$ 400.00	$ -
15	72" SDR 35, PVC (0'-6' cut)	LF	0	$ 450.00	$ -
	Total Length	**LF**	**20,200**		
16	48" dia. M.H. W.T. & Bolted (0'-6' cut)	EA	40	$ 5,000.00	$ 202,000.00
17	Bore and Case Roadways	LF	1010	$ 130.00	$ 131,300.00
18	Bore and Case Creek Crossings	LF	808	$ 100.00	$ 80,800.00
19	Trench Safety	LF	20,200	$ 2.00	$ 40,400.00
20	Sewer Main Television Inspection	LF	20,200	$ 26.00	$ 525,200.00
21	Erosion Control Devices	LF	20,200	$ 1.00	$ 20,200.00
22	Sewer Junction Structure	EA	0	$ 35,000.00	$ -
23	Lift Station	EA	0	$ 200,000.00	$ -
	Total Construction				**$ 2,951,900.00**
	Contingencies	10%			$ 295,190.00
	Total				**$ 3,247,090.00**
	Easements	LF	20,200	$ 5.00	$ 101,000.00
	Easements and Surveys and Acquisition Costs	LF	20,200	$ 2.00	$ 40,400.00
	Environmental Investigation	LF	20,200	$ 1.50	$ 30,300.00
	Total Easement Costs				**$ 171,700.00**
	Basic Engineering	10%			$ 324,709.00
	Survey	LF	20,200	$ 2.00	$ 40,400.00
	Construction Phase Services	2%			$ 64,941.80
	Total Engineering Costs				**$ 430,050.80**
	Total Project Costs				**$ 3,848,840.80**

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Green Valley Special Utility District
Summary Drainage Basin C
Engineer's Opinion of Probable Costs

C

Item	Description	Total Costs 1 (EDU/acre)	Total Costs 3 (EDU/acre)
1	12" SDR 35, PVC (0'-6' cut)	$ -	$ -
2	15" SDR 35, PVC (0'-6' cut)	$ 169,000.00	$ -
3	18" SDR 35, PVC (0'-6' cut)	$ 392,000.00	$ 182,000.00
4	21" SDR 35, PVC (0'-6' cut)	$ 448,000.00	$ 224,000.00
5	24" SDR 35, PVC (0'-6' cut)	$ 468,000.00	$ 252,000.00
6	27" SDR 35, PVC (0'-6' cut)	$ 500,000.00	$ 280,000.00
7	30" SDR 35, PVC (0'-6' cut)	$ -	$ 594,000.00
8	33" SDR 35, PVC (0'-6' cut)	$ -	$ 950,000.00
9	36" SDR 35, PVC (0'-6' cut)	$ -	$ -
10	42", PVC (0'-6' cut)	$ -	$ -
11	48", PVC (0'-6' cut)	$ -	$ -
12	54", PVC (0'-6' cut)	$ -	$ -
13	60", PVC (0'-6' cut)	$ -	$ -
14	66", PVC (0'-6' cut)	$ -	$ -
15	72", PVC (0'-6' cut)	$ -	$ -
16	48" dia. M.H. W.T. & Bolted (0'-6' cut)	$ 240,000.00	$ 240,000.00
17	Bore and Case Roadways	$ 156,000.00	$ 156,000.00
18	Bore and Case Creek Crossings	$ 96,000.00	$ 96,000.00
19	Trench Safety	$ 48,000.00	$ 48,000.00
20	Sewer Main Television Inspection	$ 624,000.00	$ 624,000.00
21	Erosion Control Devices	$ 24,000.00	$ 24,000.00
22	Sewer Junction Structure	$ -	$ -
23	Lift Station	$ -	$ -
	Total Construction	**$ 3,165,000.00**	**$ 3,670,000.00**
	Contingencies	$ 316,500.00	$ 367,000.00
	Total	**$ 3,481,500.00**	**$ 4,037,000.00**
	Easements	$ 120,000.00	$ 120,000.00
	Easements and Surveys and Acquisition Costs	$ 48,000.00	$ 48,000.00
	Environmental Investigation	$ 36,000.00	$ 36,000.00
	Total Easement Costs	**$ 204,000.00**	**$ 204,000.00**
	Basic Engineering	$ 348,150.00	$ 403,700.00
	Survey	$ 48,000.00	$ 48,000.00
	Construction Phase Services	$ 69,630.00	$ 80,740.00
	Total Engineering Costs	**$ 465,780.00**	**$ 532,440.00**
	Total Project Costs	**$ 4,151,280.00**	**$ 4,773,440.00**

This cost estimate is based on River City Engineering's experience and qualifications, and represents River City Engineering's best judgment. This cost estimate was prepared for feasibility analysis purposes only. River City Engineering does not guarantee that the actual construction cost will not vary from this estimate. Unit prices were used from SAWS average unit price list revised October 2005. Units prices will not remain constraint and will vary due to market variations such as inflation.

Green Valley Special Utility District
Drainage Basin C - 1 EDU/acre
Engineer's Opinion of Probable Costs

C

Item	Description	Unit	Quantity	Unit Price	Total Costs
1	12" SDR 35, PVC (0'-6' cut)	LF	0	$ 60.00	$ -
2	15" SDR 35, PVC (0'-6' cut)	LF	2,600	$ 65.00	$ 169,000.00
3	18" SDR 35, PVC (0'-6' cut)	LF	5,600	$ 70.00	$ 392,000.00
4	21" SDR 35, PVC (0'-6' cut)	LF	5,600	$ 80.00	$ 448,000.00
5	24" SDR 35, PVC (0'-6' cut)	LF	5,200	$ 90.00	$ 468,000.00
6	27" SDR 35, PVC (0'-6' cut)	LF	5,000	$ 100.00	$ 500,000.00
7	30" SDR 35, PVC (0'-6' cut)	LF	0	$ 110.00	$ -
8	33" SDR 35, PVC (0'-6' cut)	LF	0	$ 125.00	$ -
9	36" SDR 35, PVC (0'-6' cut)	LF	0	$ 150.00	$ -
10	42" SDR 35, PVC (0'-6' cut)	LF	0	$ 200.00	$ -
11	48" SDR 35, PVC (0'-6' cut)	LF	0	$ 250.00	$ -
12	54" SDR 35, PVC (0'-6' cut)	LF	0	$ 300.00	$ -
13	60" SDR 35, PVC (0'-6' cut)	LF	0	$ 350.00	$ -
14	66" SDR 35, PVC (0'-6' cut)	LF	0	$ 400.00	$ -
15	72" SDR 35, PVC (0'-6' cut)	LF	0	$ 450.00	$ -
	Total Length	**LF**	**24,000**		
16	48" dia. M.H. W.T. & Bolted (0'-6' cut)	EA	48	$ 5,000.00	$ 240,000.00
17	Bore and Case Roadways	LF	1200	$ 130.00	$ 156,000.00
18	Bore and Case Creek Crossings	LF	960	$ 100.00	$ 96,000.00
19	Trench Safety	LF	24,000	$ 2.00	$ 48,000.00
20	Sewer Main Television Inspection	LF	24,000	$ 26.00	$ 624,000.00
21	Erosion Control Devices	LF	24,000	$ 1.00	$ 24,000.00
22	Sewer Junction Structure	EA	0	$ 35,000.00	$ -
23	Lift Station	EA	0	$200,000.00	$ -
	Total Construction				**$ 3,165,000.00**
	Contingencies	10%			$ 316,500.00
	Total				**$ 3,481,500.00**
	Easements	LF	24,000	$ 5.00	$ 120,000.00
	Easements and Surveys and Acquisition Costs	LF	24,000	$ 2.00	$ 48,000.00
	Environmental Investigation	LF	24,000	$ 1.50	$ 36,000.00
	Total Easement Costs				**$ 204,000.00**
	Basic Engineering	10%			$ 348,150.00
	Survey	LF	24,000	$ 2.00	$ 48,000.00
	Construction Phase Services	2%			$ 69,630.00
	Total Engineering Costs				**$ 465,780.00**
	Total Project Costs				**$ 4,151,280.00**

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Green Valley Special Utility District
Drainage Basin C - 3 EDU/acre
Engineer's Opinion of Probable Costs

C

Item	Description	Unit	Quantity	Unit Price	Total Costs
1	12" SDR 35, PVC (0'-6' cut)	LF	0	$ 60.00	$ -
2	15" SDR 35, PVC (0'-6' cut)	LF	0	$ 65.00	$ -
3	18" SDR 35, PVC (0'-6' cut)	LF	2,600	$ 70.00	$ 182,000.00
4	21" SDR 35, PVC (0'-6' cut)	LF	2,800	$ 80.00	$ 224,000.00
5	24" SDR 35, PVC (0'-6' cut)	LF	2,800	$ 90.00	$ 252,000.00
6	27" SDR 35, PVC (0'-6' cut)	LF	2,800	$ 100.00	$ 280,000.00
7	30" SDR 35, PVC (0'-6' cut)	LF	5,400	$ 110.00	$ 594,000.00
8	33" SDR 35, PVC (0'-6' cut)	LF	7,600	$ 125.00	$ 950,000.00
9	36" SDR 35, PVC (0'-6' cut)	LF	0	$ 150.00	$ -
10	42" SDR 35, PVC (0'-6' cut)	LF	0	$ 200.00	$ -
11	48" SDR 35, PVC (0'-6' cut)	LF	0	$ 250.00	$ -
12	54" SDR 35, PVC (0'-6' cut)	LF	0	$ 300.00	$ -
13	60" SDR 35, PVC (0'-6' cut)	LF	0	$ 350.00	$ -
14	66" SDR 35, PVC (0'-6' cut)	LF	0	$ 400.00	$ -
15	72" SDR 35, PVC (0'-6' cut)	LF	0	$ 450.00	$ -
	Total Length	**LF**	**24,000**		
16	48" dia. M.H. W.T. & Bolted (0'-6' cut)	EA	48	$ 5,000.00	$ 240,000.00
17	Bore and Case Roadways	LF	1200	$ 130.00	$ 156,000.00
18	Bore and Case Creek Crossings	LF	960	$ 100.00	$ 96,000.00
19	Trench Safety	LF	24,000	$ 2.00	$ 48,000.00
20	Sewer Main Television Inspection	LF	24,000	$ 26.00	$ 624,000.00
21	Erosion Control Devices	LF	24,000	$ 1.00	$ 24,000.00
22	Sewer Junction Structure	EA	0	$ 35,000.00	$ -
23	Lift Station	EA	0	$200,000.00	$ -
	Total Construction				**$ 3,670,000.00**
	Contingencies	10%			$ 367,000.00
	Total				**$ 4,037,000.00**
	Easements	LF	24,000	$ 5.00	$ 120,000.00
	Easements and Surveys and Acquisition Costs	LF	24,000	$ 2.00	$ 48,000.00
	Environmental Investigation	LF	24,000	$ 1.50	$ 36,000.00
	Total Easement Costs				**$ 204,000.00**
	Basic Engineering	10%			$ 403,700.00
	Survey	LF	24,000	$ 2.00	$ 48,000.00
	Construction Phase Services	2%			$ 80,740.00
	Total Engineering Costs				**$ 532,440.00**
	Total Project Costs				**$ 4,773,440.00**

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Green Valley Special Utility District
Summary Drainage Basin D
Engineer's Opinion of Probable Costs

D

Item	Description	Total Costs 1 (EDU/acre)	Total Costs 3 (EDU/acre)
1	12" SDR 35, PVC (0'-6' cut)	$ -	$ -
2	15" SDR 35, PVC (0'-6' cut)	$ -	$ -
3	18" SDR 35, PVC (0'-6' cut)	$ -	$ -
4	21" SDR 35, PVC (0'-6' cut)	$ 200,000.00	$ -
5	24" SDR 35, PVC (0'-6' cut)	$ 225,000.00	$ -
6	27" SDR 35, PVC (0'-6' cut)	$ 530,000.00	$ 250,000.00
7	30" SDR 35, PVC (0'-6' cut)	$ 616,000.00	$ -
8	33" SDR 35, PVC (0'-6' cut)	$ -	$ 312,500.00
9	36" SDR 35, PVC (0'-6' cut)	$ -	$ 795,000.00
10	42", PVC (0'-6' cut)	$ -	$ 1,120,000.00
11	48", PVC (0'-6' cut)	$ -	$ -
12	54", PVC (0'-6' cut)	$ -	$ -
13	60", PVC (0'-6' cut)	$ -	$ -
14	66", PVC (0'-6' cut)	$ -	$ -
15	72", PVC (0'-6' cut)	$ -	$ -
16	48" dia. M.H. W.T. & Bolted (0'-6' cut)	$ 159,000.00	$ 159,000.00
17	Bore and Case Roadways	$ 103,350.00	$ 103,350.00
18	Bore and Case Creek Crossings	$ 63,600.00	$ 63,600.00
19	Trench Safety	$ 31,800.00	$ 31,800.00
20	Sewer Main Television Inspection	$ 413,400.00	$ 413,400.00
21	Erosion Control Devices	$ 15,900.00	$ 15,900.00
22	Sewer Junction Structure	$ -	$ -
23	Lift Station	$ -	$ -
	Total Construction	**$ 2,358,050.00**	**$ 3,264,550.00**
	Contingencies	$ 235,805.00	$ 326,455.00
	Total	**$ 2,593,855.00**	**$ 3,591,005.00**
	Easements	$ 79,500.00	$ 79,500.00
	Easements and Surveys and Acquisition Costs	$ 31,800.00	$ 31,800.00
	Environmental Investigation	$ 23,850.00	$ 23,850.00
	Total Easement Costs	**$ 135,150.00**	**$ 135,150.00**
	Basic Engineering	$ 259,385.50	$ 359,100.50
	Survey	$ 31,800.00	$ 31,800.00
	Construction Phase Services	$ 51,877.10	$ 71,820.10
	Total Engineering Costs	**$ 343,062.60**	**$ 462,720.60**
	Total Project Costs	**$ 3,072,067.60**	**$ 4,188,875.60**

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Green Valley Special Utility District
Drainage Basin D - 1 EDU/acre
Engineer's Opinion of Probable Costs

D

Item	Description	Unit	Quantity	Unit Price	Total Costs
1	12" SDR 35, PVC (0'-6' cut)	LF	0	$ 60.00	$ -
2	15" SDR 35, PVC (0'-6' cut)	LF	0	$ 65.00	$ -
3	18" SDR 35, PVC (0'-6' cut)	LF	0	$ 70.00	$ -
4	21" SDR 35, PVC (0'-6' cut)	LF	2,500	$ 80.00	$ 200,000.00
5	24" SDR 35, PVC (0'-6' cut)	LF	2,500	$ 90.00	$ 225,000.00
6	27" SDR 35, PVC (0'-6' cut)	LF	5,300	$ 100.00	$ 530,000.00
7	30" SDR 35, PVC (0'-6' cut)	LF	5,600	$ 110.00	$ 616,000.00
8	33" SDR 35, PVC (0'-6' cut)	LF	0	$ 125.00	$ -
9	36" SDR 35, PVC (0'-6' cut)	LF	0	$ 150.00	$ -
10	42" SDR 35, PVC (0'-6' cut)	LF	0	$ 200.00	$ -
11	48" SDR 35, PVC (0'-6' cut)	LF	0	$ 250.00	$ -
12	54" SDR 35, PVC (0'-6' cut)	LF	0	$ 300.00	$ -
13	60" SDR 35, PVC (0'-6' cut)	LF	0	$ 350.00	$ -
14	66" SDR 35, PVC (0'-6' cut)	LF	0	$ 400.00	$ -
15	72" SDR 35, PVC (0'-6' cut)	LF	0	$ 450.00	$ -
	Total Length	**LF**	**15,900**		
16	48" dia. M.H. W.T. & Bolted (0'-6' cut)	EA	32	$ 5,000.00	$ 159,000.00
17	Bore and Case Roadways	LF	795	$ 130.00	$ 103,350.00
18	Bore and Case Creek Crossings	LF	636	$ 100.00	$ 63,600.00
19	Trench Safety	LF	15,900	$ 2.00	$ 31,800.00
20	Sewer Main Television Inspection	LF	15,900	$ 26.00	$ 413,400.00
21	Erosion Control Devices	LF	15,900	$ 1.00	$ 15,900.00
22	Sewer Junction Structure	EA	0	$ 35,000.00	$ -
23	Lift Station	EA	0	$200,000.00	$ -
	Total Construction				**$ 2,358,050.00**
	Contingencies	10%			$ 235,805.00
	Total				**$ 2,593,855.00**
	Easements	LF	15,900	$ 5.00	$ 79,500.00
	Easements and Surveys and Acquisition Costs	LF	15,900	$ 2.00	$ 31,800.00
	Environmental Investigation	LF	15,900	$ 1.50	$ 23,850.00
	Total Easement Costs				**$ 135,150.00**
	Basic Engineering	10%			$ 259,385.50
	Survey	LF	15,900	$ 2.00	$ 31,800.00
	Construction Phase Services	2%			$ 51,877.10
	Total Engineering Costs				**$ 343,062.60**
	Total Project Costs				**$ 3,072,067.60**

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Green Valley Special Utility District
Drainage Basin D - 3 EDU/acre
Engineer's Opinion of Probable Costs

D

Item	Description	Unit	Quantity	Unit Price	Total Costs
1	12" SDR 35, PVC (0'-6' cut)	LF	0	$ 60.00	$ -
2	15" SDR 35, PVC (0'-6' cut)	LF	0	$ 65.00	$ -
3	18" SDR 35, PVC (0'-6' cut)	LF	0	$ 70.00	$ -
4	21" SDR 35, PVC (0'-6' cut)	LF	0	$ 80.00	$ -
5	24" SDR 35, PVC (0'-6' cut)	LF	0	$ 90.00	$ -
6	27" SDR 35, PVC (0'-6' cut)	LF	2,500	$ 100.00	$ 250,000.00
7	30" SDR 35, PVC (0'-6' cut)	LF	0	$ 110.00	$ -
8	33" SDR 35, PVC (0'-6' cut)	LF	2,500	$ 125.00	$ 312,500.00
9	36" SDR 35, PVC (0'-6' cut)	LF	5,300	$ 150.00	$ 795,000.00
10	42" SDR 35, PVC (0'-6' cut)	LF	5,600	$ 200.00	$ 1,120,000.00
11	48" SDR 35, PVC (0'-6' cut)	LF	0	$ 250.00	$ -
12	54" SDR 35, PVC (0'-6' cut)	LF	0	$ 300.00	$ -
13	60" SDR 35, PVC (0'-6' cut)	LF	0	$ 350.00	$ -
14	66" SDR 35, PVC (0'-6' cut)	LF	0	$ 400.00	$ -
15	72" SDR 35, PVC (0'-6' cut)	LF	0	$ 450.00	$ -
	Total Length	**LF**	**15,900**		
16	48" dia. M.H. W.T. & Bolted (0'-6' cut)	EA	32	$ 5,000.00	$ 159,000.00
17	Bore and Case Roadways	LF	795	$ 130.00	$ 103,350.00
18	Bore and Case Creek Crossings	LF	636	$ 100.00	$ 63,600.00
19	Trench Safety	LF	15,900	$ 2.00	$ 31,800.00
20	Sewer Main Television Inspection	LF	15,900	$ 26.00	$ 413,400.00
21	Erosion Control Devices	LF	15,900	$ 1.00	$ 15,900.00
22	Sewer Junction Structure	EA	0	$ 35,000.00	$ -
23	Lift Station	EA	0	$200,000.00	$ -
	Total Construction				**$ 3,264,550.00**
	Contingencies	10%			$ 326,455.00
	Total				**$ 3,591,005.00**
	Easements	LF	15,900	$ 5.00	$ 79,500.00
	Easements and Surveys and Acquisition Costs	LF	15,900	$ 2.00	$ 31,800.00
	Environmental Investigation	LF	15,900	$ 1.50	$ 23,850.00
	Total Easement Costs				**$ 135,150.00**
	Basic Engineering	10%			$ 359,100.50
	Survey	LF	15,900	$ 2.00	$ 31,800.00
	Construction Phase Services	2%			$ 71,820.10
	Total Engineering Costs				**$ 462,720.60**
	Total Project Costs				**$ 4,188,875.60**

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Green Valley Special Utility District
Summary Drainage Basin E
Engineer's Opinion of Probable Costs

E

Item	Description	Total Costs 1 (EDU/acre)	Total Costs 3 (EDU/acre)
1	12" SDR 35, PVC (0'-6' cut)	$ -	$ -
2	15" SDR 35, PVC (0'-6' cut)	$ -	$ -
3	18" SDR 35, PVC (0'-6' cut)	$ -	$ -
4	21" SDR 35, PVC (0'-6' cut)	$ 588,000.00	$ -
5	24" SDR 35, PVC (0'-6' cut)	$ 1,548,000.00	$ 414,000.00
6	27" SDR 35, PVC (0'-6' cut)	$ 2,230,000.00	$ 735,000.00
7	30" SDR 35, PVC (0'-6' cut)	$ 1,699,500.00	$ 1,386,000.00
8	33" SDR 35, PVC (0'-6' cut)	$ 2,706,250.00	$ 1,625,000.00
9	36" SDR 35, PVC (0'-6' cut)	$ 870,000.00	$ 2,167,500.00
10	42", PVC (0'-6' cut)	$ -	$ 6,390,000.00
11	48", PVC (0'-6' cut)	$ 1,750,000.00	$ 1,450,000.00
12	54", PVC (0'-6' cut)	$ 5,550,000.00	$ -
13	60", PVC (0'-6' cut)	$ 3,360,000.00	$ 2,450,000.00
14	66", PVC (0'-6' cut)	$ -	$ 2,000,000.00
15	72", PVC (0'-6' cut)	$ -	$ -
16	48" dia. M.H. W.T. & Bolted (0'-6' cut)	$ 1,248,500.00	$ 1,017,500.00
17	Bore and Case Roadways	$ 811,525.00	$ 661,375.00
18	Bore and Case Creek Crossings	$ 499,400.00	$ 407,000.00
19	Trench Safety	$ 249,700.00	$ 203,500.00
20	Sewer Main Television Inspection	$ 3,246,100.00	$ 2,645,500.00
21	Erosion Control Devices	$ 124,850.00	$ 101,750.00
22	Sewer Junction Structure	$ 140,000.00	$ 140,000.00
23	Lift Station	$ 400,000.00	$ 400,000.00
	Total Construction	**$ 27,021,825.00**	**$ 34,589,125.00**
	Contingencies	$ 2,702,182.50	$ 3,458,912.50
	Total	**$ 29,724,007.50**	**$ 38,048,037.50**
	Easements	$ 624,250.00	$ 508,750.00
	Easements and Surveys and Acquisition Costs	$ 249,700.00	$ 203,500.00
	Environmental Investigation	$ 187,275.00	$ 152,625.00
	Total Easement Costs	**$ 1,061,225.00**	**$ 864,875.00**
	Basic Engineering	$ 2,972,400.75	$ 3,804,803.75
	Survey	$ 249,700.00	$ 203,500.00
	Construction Phase Services	$ 594,480.15	$ 760,960.75
	Total Engineering Costs	**$ 3,816,580.90**	**$ 4,769,264.50**
	Total Project Costs	**$ 34,601,813.40**	**$ 43,682,177.00**

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Green Valley Special Utility District
Drainage Basin E - 1 EDU/acre
Engineer's Opinion of Probable Costs

E

Item	Description	Unit	Quantity	Unit Price	Total Costs
1	12" SDR 35, PVC (0'-6' cut)	LF	0	$ 60.00	$ -
2	15" SDR 35, PVC (0'-6' cut)	LF	0	$ 65.00	$ -
3	18" SDR 35, PVC (0'-6' cut)	LF	0	$ 70.00	$ -
4	21" SDR 35, PVC (0'-6' cut)	LF	7,350	$ 80.00	$ 588,000.00
5	24" SDR 35, PVC (0'-6' cut)	LF	17,200	$ 90.00	$ 1,548,000.00
6	27" SDR 35, PVC (0'-6' cut)	LF	22,300	$ 100.00	$ 2,230,000.00
7	30" SDR 35, PVC (0'-6' cut)	LF	15,450	$ 110.00	$ 1,699,500.00
8	33" SDR 35, PVC (0'-6' cut)	LF	21,650	$ 125.00	$ 2,706,250.00
9	36" SDR 35, PVC (0'-6' cut)	LF	5,800	$ 150.00	$ 870,000.00
10	42" SDR 35, PVC (0'-6' cut)	LF	0	$ 200.00	$ -
11	48" SDR 35, PVC (0'-6' cut)	LF	7,000	$ 250.00	$ 1,750,000.00
12	54" SDR 35, PVC (0'-6' cut)	LF	18,500	$ 300.00	$ 5,550,000.00
13	60" SDR 35, PVC (0'-6' cut)	LF	9,600	$ 350.00	$ 3,360,000.00
14	66" SDR 35, PVC (0'-6' cut)	LF	0	$ 400.00	$ -
15	72" SDR 35, PVC (0'-6' cut)	LF	0	$ 450.00	$ -
	Total Length	**LF**	**124,850**		
16	48" dia. M.H. W.T. & Bolted (0'-6' cut)	EA	250	$ 5,000.00	$ 1,248,500.00
17	Bore and Case Roadways	LF	6242.5	$ 130.00	$ 811,525.00
18	Bore and Case Creek Crossings	LF	4,994	$ 100.00	$ 499,400.00
19	Trench Safety	LF	124,850	$ 2.00	$ 249,700.00
20	Sewer Main Television Inspection	LF	124,850	$ 26.00	$ 3,246,100.00
21	Erosion Control Devices	LF	124,850	$ 1.00	$ 124,850.00
22	Sewer Junction Structure	EA	4	$ 35,000.00	$ 140,000.00
23	Lift Station	EA	2	$ 200,000.00	$ 400,000.00
	Total Construction				**$ 27,021,825.00**
	Contingencies	10%			$ 2,702,182.50
	Total				**$ 29,724,007.50**
	Easements	LF	124,850	$ 5.00	$ 624,250.00
	Easements and Surveys and Acquisition Costs	LF	124,850	$ 2.00	$ 249,700.00
	Environmental Investigation	LF	124,850	$ 1.50	$ 187,275.00
	Total Easement Costs				**$ 1,061,225.00**
	Basic Engineering	10%			$ 2,972,400.75
	Survey	LF	124,850	$ 2.00	$ 249,700.00
	Construction Phase Services	2%			$ 594,480.15
	Total Engineering Costs				**$ 3,816,580.90**
	Total Project Costs				**$ 34,601,813.40**

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Green Valley Special Utility District
Drainage Basin E - 3 EDU/acre
Engineer's Opinion of Probable Costs

E

Item	Description	Unit	Quantity	Unit Price	Total Costs
1	12" SDR 35, PVC (0'-6' cut)	LF	0	$ 60.00	$ -
2	15" SDR 35, PVC (0'-6' cut)	LF	0	$ 65.00	$ -
3	18" SDR 35, PVC (0'-6' cut)	LF	0	$ 70.00	$ -
4	21" SDR 35, PVC (0'-6' cut)	LF	0	$ 80.00	$ -
5	24" SDR 35, PVC (0'-6' cut)	LF	4,600	$ 90.00	$ 414,000.00
6	27" SDR 35, PVC (0'-6' cut)	LF	7,350	$ 100.00	$ 735,000.00
7	30" SDR 35, PVC (0'-6' cut)	LF	12,600	$ 110.00	$ 1,386,000.00
8	33" SDR 35, PVC (0'-6' cut)	LF	13,000	$ 125.00	$ 1,625,000.00
9	36" SDR 35, PVC (0'-6' cut)	LF	14,450	$ 150.00	$ 2,167,500.00
10	42" SDR 35, PVC (0'-6' cut)	LF	31,950	$ 200.00	$ 6,390,000.00
11	48" SDR 35, PVC (0'-6' cut)	LF	5,800	$ 250.00	$ 1,450,000.00
12	54" SDR 35, PVC (0'-6' cut)	LF	0	$ 300.00	$ -
13	60" SDR 35, PVC (0'-6' cut)	LF	7,000	$ 350.00	$ 2,450,000.00
14	66" SDR 35, PVC (0'-6' cut)	LF	5,000	$ 400.00	$ 2,000,000.00
15	72" SDR 35, PVC (0'-6' cut)	LF	23,100	$ 450.00	$ 10,395,000.00
	Total Length	**LF**	**101,750**		
16	48" dia. M.H. W.T. & Bolted (0'-6' cut)	EA	204	$ 5,000.00	$ 1,017,500.00
17	Bore and Case Roadways	LF	5087.5	$ 130.00	$ 661,375.00
18	Bore and Case Creek Crossings	LF	4,070	$ 100.00	$ 407,000.00
19	Trench Safety	LF	101,750	$ 2.00	$ 203,500.00
20	Sewer Main Television Inspection	LF	101,750	$ 26.00	$ 2,645,500.00
21	Erosion Control Devices	LF	101,750	$ 1.00	$ 101,750.00
22	Sewer Junction Structure	EA	4	$ 35,000.00	$ 140,000.00
23	Lift Station	EA	2	$ 200,000.00	$ 400,000.00
	Total Construction				**$ 34,589,125.00**
	Contingencies	10%			$ 3,458,912.50
	Total				**$ 38,048,037.50**
	Easements	LF	101,750	$ 5.00	$ 508,750.00
	Easements and Surveys and Acquisition Costs	LF	101,750	$ 2.00	$ 203,500.00
	Environmental Investigation	LF	101,750	$ 1.50	$ 152,625.00
	Total Easement Costs				**$ 864,875.00**
	Basic Engineering	10%			$ 3,804,803.75
	Survey	LF	101,750	$ 2.00	$ 203,500.00
	Construction Phase Services	2%			$ 760,960.75
	Total Engineering Costs				**$ 4,769,264.50**
	Total Project Costs				**$ 43,682,177.00**

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Green Valley Special Utility District
Summary Drainage Basin F
Engineer's Opinion of Probable Costs

F

Item	Description	Total Costs 1 (EDU/acre)	Total Costs 3 (EDU/acre)
1	12" SDR 35, PVC (0'-6' cut)	$ -	$ -
2	15" SDR 35, PVC (0'-6' cut)	$ -	$ -
3	18" SDR 35, PVC (0'-6' cut)	$ 175,000.00	$ -
4	21" SDR 35, PVC (0'-6' cut)	$ 200,000.00	$ -
5	24" SDR 35, PVC (0'-6' cut)	$ 450,000.00	$ 225,000.00
6	27" SDR 35, PVC (0'-6' cut)	$ 500,000.00	$ 250,000.00
7	30" SDR 35, PVC (0'-6' cut)	$ 1,342,000.00	$ 550,000.00
8	33" SDR 35, PVC (0'-6' cut)	$ -	$ 312,500.00
9	36" SDR 35, PVC (0'-6' cut)	$ -	$ 1,155,000.00
10	42", PVC (0'-6' cut)	$ -	$ 1,400,000.00
11	48", PVC (0'-6' cut)	$ -	$ -
12	54", PVC (0'-6' cut)	$ -	$ -
13	60", PVC (0'-6' cut)	$ -	$ -
14	66", PVC (0'-6' cut)	$ -	$ -
15	72", PVC (0'-6' cut)	$ -	$ -
16	48" dia. M.H. W.T. & Bolted (0'-6' cut)	$ 272,000.00	$ 272,000.00
17	Bore and Case Roadways	$ 176,800.00	$ 176,800.00
18	Bore and Case Creek Crossings	$ 108,800.00	$ 108,800.00
19	Trench Safety	$ 54,400.00	$ 54,400.00
20	Sewer Main Television Inspection	$ 707,200.00	$ 707,200.00
21	Erosion Control Devices	$ 27,200.00	$ 27,200.00
22	Sewer Junction Structure	$ -	$ -
23	Lift Station	$ -	$ -
	Total Construction	**$ 4,013,400.00**	**$ 5,238,900.00**
	Contingencies	$ 401,340.00	$ 523,890.00
	Total	**$ 4,414,740.00**	**$ 5,762,790.00**
	Easements	$ 136,000.00	$ 136,000.00
	Easements and Surveys and Acquisition Costs	$ 54,400.00	$ 54,400.00
	Environmental Investigation	$ 40,800.00	$ 40,800.00
	Total Easement Costs	**$ 231,200.00**	**$ 231,200.00**
	Basic Engineering	$ 441,474.00	$ 576,279.00
	Survey	$ 54,400.00	$ 54,400.00
	Construction Phase Services	$ 88,294.80	$ 115,255.80
	Total Engineering Costs	**$ 584,168.80**	**$ 745,934.80**
	Total Project Costs	**$ 5,230,108.80**	**$ 6,739,924.80**

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Green Valley Special Utility District
Drainage Basin F - 1 EDU/acre
Engineer's Opinion of Probable Costs

F

Item	Description	Unit	Quantity	Unit Price	Total Costs
1	12" SDR 35, PVC (0'-6' cut)	LF	0	$ 60.00	$ -
2	15" SDR 35, PVC (0'-6' cut)	LF	0	$ 65.00	$ -
3	18" SDR 35, PVC (0'-6' cut)	LF	2,500	$ 70.00	$ 175,000.00
4	21" SDR 35, PVC (0'-6' cut)	LF	2,500	$ 80.00	$ 200,000.00
5	24" SDR 35, PVC (0'-6' cut)	LF	5,000	$ 90.00	$ 450,000.00
6	27" SDR 35, PVC (0'-6' cut)	LF	5,000	$ 100.00	$ 500,000.00
7	30" SDR 35, PVC (0'-6' cut)	LF	12,200	$ 110.00	$ 1,342,000.00
8	33" SDR 35, PVC (0'-6' cut)	LF	0	$ 125.00	$ -
9	36" SDR 35, PVC (0'-6' cut)	LF	0	$ 150.00	$ -
10	42" SDR 35, PVC (0'-6' cut)	LF	0	$ 200.00	$ -
11	48" SDR 35, PVC (0'-6' cut)	LF	0	$ 250.00	$ -
12	54" SDR 35, PVC (0'-6' cut)	LF	0	$ 300.00	$ -
13	60" SDR 35, PVC (0'-6' cut)	LF	0	$ 350.00	$ -
14	66" SDR 35, PVC (0'-6' cut)	LF	0	$ 400.00	$ -
15	72" SDR 35, PVC (0'-6' cut)	LF	0	$ 450.00	$ -
	Total Length	**LF**	**27,200**		
16	48" dia. M.H. W.T. & Bolted (0'-6' cut)	EA	54	$ 5,000.00	$ 272,000.00
17	Bore and Case Roadways	LF	1360	$ 130.00	$ 176,800.00
18	Bore and Case Creek Crossings	LF	1,088	$ 100.00	$ 108,800.00
19	Trench Safety	LF	27,200	$ 2.00	$ 54,400.00
20	Sewer Main Television Inspection	LF	27,200	$ 26.00	$ 707,200.00
21	Erosion Control Devices	LF	27,200	$ 1.00	$ 27,200.00
22	Sewer Junction Structure	EA	0	$ 35,000.00	$ -
23	Lift Station	EA	0	$ 200,000.00	$ -
	Total Construction				**$ 4,013,400.00**
	Contingencies	10%			$ 401,340.00
	Total				**$ 4,414,740.00**
	Easements	LF	27,200	$ 5.00	$ 136,000.00
	Easements and Surveys and Acquisition Costs	LF	27,200	$ 2.00	$ 54,400.00
	Environmental Investigation	LF	27,200	$ 1.50	$ 40,800.00
	Total Easement Costs				**$ 231,200.00**
	Basic Engineering	10%			$ 441,474.00
	Survey	LF	27,200	$ 2.00	$ 54,400.00
	Construction Phase Services	2%			$ 88,294.80
	Total Engineering Costs				**$ 584,168.80**
	Total Project Costs				**$ 5,230,108.80**

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Green Valley Special Utility District
Drainage Basin F - 3 EDU/acre
Engineer's Opinion of Probable Costs

F

Item	Description	Unit	Quantity	Unit Price	Total Costs
1	12" SDR 35, PVC (0'-6' cut)	LF	0	$ 60.00	$ -
2	15" SDR 35, PVC (0'-6' cut)	LF	0	$ 65.00	$ -
3	18" SDR 35, PVC (0'-6' cut)	LF	0	$ 70.00	$ -
4	21" SDR 35, PVC (0'-6' cut)	LF	0	$ 80.00	$ -
5	24" SDR 35, PVC (0'-6' cut)	LF	2,500	$ 90.00	$ 225,000.00
6	27" SDR 35, PVC (0'-6' cut)	LF	2,500	$ 100.00	$ 250,000.00
7	30" SDR 35, PVC (0'-6' cut)	LF	5,000	$ 110.00	$ 550,000.00
8	33" SDR 35, PVC (0'-6' cut)	LF	2,500	$ 125.00	$ 312,500.00
9	36" SDR 35, PVC (0'-6' cut)	LF	7,700	$ 150.00	$ 1,155,000.00
10	42" SDR 35, PVC (0'-6' cut)	LF	7,000	$ 200.00	$ 1,400,000.00
11	48" SDR 35, PVC (0'-6' cut)	LF	0	$ 250.00	$ -
12	54" SDR 35, PVC (0'-6' cut)	LF	0	$ 300.00	$ -
13	60" SDR 35, PVC (0'-6' cut)	LF	0	$ 350.00	$ -
14	66" SDR 35, PVC (0'-6' cut)	LF	0	$ 400.00	$ -
15	72" SDR 35, PVC (0'-6' cut)	LF	0	$ 450.00	$ -
	Total Length	**LF**	**27,200**		
16	48" dia. M.H. W.T. & Bolted (0'-6' cut)	EA	54	$ 5,000.00	$ 272,000.00
17	Bore and Case Roadways	LF	1360	$ 130.00	$ 176,800.00
18	Bore and Case Creek Crossings	LF	1,088	$ 100.00	$ 108,800.00
19	Trench Safety	LF	27,200	$ 2.00	$ 54,400.00
20	Sewer Main Television Inspection	LF	27,200	$ 26.00	$ 707,200.00
21	Erosion Control Devices	LF	27,200	$ 1.00	$ 27,200.00
22	Sewer Junction Structure	EA	0	$ 35,000.00	$ -
23	Lift Station	EA	0	$ 200,000.00	$ -
	Total Construction				**$ 5,238,900.00**
	Contingencies	10%			$ 523,890.00
	Total				**$ 5,762,790.00**
	Easements	LF	27,200	$ 5.00	$ 136,000.00
	Easements and Surveys and Acquisition Costs	LF	27,200	$ 2.00	$ 54,400.00
	Environmental Investigation	LF	27,200	$ 1.50	$ 40,800.00
	Total Easement Costs				**$ 231,200.00**
	Basic Engineering	10%			$ 576,279.00
	Survey	LF	27,200	$ 2.00	$ 54,400.00
	Construction Phase Services	2%			$ 115,255.80
	Total Engineering Costs				**$ 745,934.80**
	Total Project Costs				**$ 6,739,924.80**

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Green Valley Special Utility District
Summary Drainage Basin G
Engineer's Opinion of Probable Costs

G

Item	Description	Total Costs 1 (EDU/acre)	Total Costs 3 (EDU/acre)
1	12" SDR 35, PVC (0'-6' cut)	$ -	$ -
2	15" SDR 35, PVC (0'-6' cut)	$ 175,500.00	$ -
3	18" SDR 35, PVC (0'-6' cut)	$ 189,000.00	$ 189,000.00
4	21" SDR 35, PVC (0'-6' cut)	$ 400,000.00	$ 216,000.00
5	24" SDR 35, PVC (0'-6' cut)	$ 225,000.00	$ 225,000.00
6	27" SDR 35, PVC (0'-6' cut)	$ 280,000.00	$ 250,000.00
7	30" SDR 35, PVC (0'-6' cut)	$ 319,000.00	$ 275,000.00
8	33" SDR 35, PVC (0'-6' cut)	$ 375,000.00	$ 350,000.00
9	36" SDR 35, PVC (0'-6' cut)	$ -	$ 435,000.00
10	42", PVC (0'-6' cut)	$ -	$ 600,000.00
11	48", PVC (0'-6' cut)	$ -	$ -
12	54", PVC (0'-6' cut)	$ -	$ -
13	60", PVC (0'-6' cut)	$ -	$ -
14	66", PVC (0'-6' cut)	$ -	$ -
15	72", PVC (0'-6' cut)	$ -	$ -
16	48" dia. M.H. W.T. & Bolted (0'-6' cut)	$ 216,000.00	$ 216,000.00
17	Bore and Case Roadways	$ 140,400.00	$ 140,400.00
18	Bore and Case Creek Crossings	$ 86,400.00	$ 86,400.00
19	Trench Safety	$ 43,200.00	$ 43,200.00
20	Sewer Main Television Inspection	$ 561,600.00	$ 561,600.00
21	Erosion Control Devices	$ 21,600.00	$ 21,600.00
22	Sewer Junction Structure	$ -	$ -
23	Lift Station	$ -	$ -
	Total Construction	**$ 3,032,700.00**	**$ 3,609,200.00**
	Contingencies	$ 303,270.00	$ 360,920.00
	Total	**$ 3,335,970.00**	**$ 3,970,120.00**
	Easements	$ 108,000.00	$ 108,000.00
	Easements and Surveys and Acquisition Costs	$ 43,200.00	$ 43,200.00
	Environmental Investigation	$ 32,400.00	$ 32,400.00
	Total Easement Costs	**$ 183,600.00**	**$ 183,600.00**
	Basic Engineering	$ 333,597.00	$ 397,012.00
	Survey	$ 43,200.00	$ 43,200.00
	Construction Phase Services	$ 66,719.40	$ 79,402.40
	Total Engineering Costs	**$ 443,516.40**	**$ 519,614.40**
	Total Project Costs	**$ 3,963,086.40**	**$ 4,673,334.40**

This cost estimate is based on River City Engineering's experience and qualifications, and represents River City Engineering's best judgment. This cost estimate was prepared for feasibility analysis purposes only. River City Engineering does not guarantee that the actual construction cost will not vary from this estimate. Unit prices were used from SAWS average unit price list revised October 2005. Units prices will not remain constraint and will vary due to market variations such as inflation.

Green Valley Special Utility District
Drainage Basin G - 1 EDU/acre
Engineer's Opinion of Probable Costs

G

Item	Description	Unit	Quantity	Unit Price	Total Costs
1	12" SDR 35, PVC (0'-6' cut)	LF	0	$ 60.00	$ -
2	15" SDR 35, PVC (0'-6' cut)	LF	2,700	$ 65.00	$ 175,500.00
3	18" SDR 35, PVC (0'-6' cut)	LF	2,700	$ 70.00	$ 189,000.00
4	21" SDR 35, PVC (0'-6' cut)	LF	5,000	$ 80.00	$ 400,000.00
5	24" SDR 35, PVC (0'-6' cut)	LF	2,500	$ 90.00	$ 225,000.00
6	27" SDR 35, PVC (0'-6' cut)	LF	2,800	$ 100.00	$ 280,000.00
7	30" SDR 35, PVC (0'-6' cut)	LF	2,900	$ 110.00	$ 319,000.00
8	33" SDR 35, PVC (0'-6' cut)	LF	3,000	$ 125.00	$ 375,000.00
9	36" SDR 35, PVC (0'-6' cut)	LF	0	$ 150.00	$ -
10	42" SDR 35, PVC (0'-6' cut)	LF	0	$ 200.00	$ -
11	48" SDR 35, PVC (0'-6' cut)	LF	0	$ 250.00	$ -
12	54" SDR 35, PVC (0'-6' cut)	LF	0	$ 300.00	$ -
13	60" SDR 35, PVC (0'-6' cut)	LF	0	$ 350.00	$ -
14	66" SDR 35, PVC (0'-6' cut)	LF	0	$ 400.00	$ -
15	72" SDR 35, PVC (0'-6' cut)	LF	0	$ 450.00	$ -
	Total Length	**LF**	**21,600**		
16	48" dia. M.H. W.T. & Bolted (0'-6' cut)	EA	43	$ 5,000.00	$ 216,000.00
17	Bore and Case Roadways	LF	1080	$ 130.00	$ 140,400.00
18	Bore and Case Creek Crossings	LF	864	$ 100.00	$ 86,400.00
19	Trench Safety	LF	21,600	$ 2.00	$ 43,200.00
20	Sewer Main Television Inspection	LF	21,600	$ 26.00	$ 561,600.00
21	Erosion Control Devices	LF	21,600	$ 1.00	$ 21,600.00
22	Sewer Junction Structure	EA	0	$ 35,000.00	$ -
23	Lift Station	EA	0	$200,000.00	$ -
	Total Construction				**$ 3,032,700.00**
	Contingencies	10%			$ 303,270.00
	Total				**$ 3,335,970.00**
	Easements	LF	21,600	$ 5.00	$ 108,000.00
	Easements and Surveys and Acquisition Costs	LF	21,600	$ 2.00	$ 43,200.00
	Environmental Investigation	LF	21,600	$ 1.50	$ 32,400.00
	Total Easement Costs				**$ 183,600.00**
	Basic Engineering	10%			$ 333,597.00
	Survey	LF	21,600	$ 2.00	$ 43,200.00
	Construction Phase Services	2%			$ 66,719.40
	Total Engineering Costs				**$ 443,516.40**
	Total Project Costs				**$ 3,963,086.40**

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Green Valley Special Utility District
Drainage Basin G - 3 EDU/acre
Engineer's Opinion of Probable Costs

G

Item	Description	Unit	Quantity	Unit Price	Total Costs
1	12" SDR 35, PVC (0'-6' cut)	LF	0	$ 60.00	$ -
2	15" SDR 35, PVC (0'-6' cut)	LF	0	$ 65.00	$ -
3	18" SDR 35, PVC (0'-6' cut)	LF	2,700	$ 70.00	$ 189,000.00
4	21" SDR 35, PVC (0'-6' cut)	LF	2,700	$ 80.00	$ 216,000.00
5	24" SDR 35, PVC (0'-6' cut)	LF	2,500	$ 90.00	$ 225,000.00
6	27" SDR 35, PVC (0'-6' cut)	LF	2,500	$ 100.00	$ 250,000.00
7	30" SDR 35, PVC (0'-6' cut)	LF	2,500	$ 110.00	$ 275,000.00
8	33" SDR 35, PVC (0'-6' cut)	LF	2,800	$ 125.00	$ 350,000.00
9	36" SDR 35, PVC (0'-6' cut)	LF	2,900	$ 150.00	$ 435,000.00
10	42" SDR 35, PVC (0'-6' cut)	LF	3,000	$ 200.00	$ 600,000.00
11	48" SDR 35, PVC (0'-6' cut)	LF	0	$ 250.00	$ -
12	54" SDR 35, PVC (0'-6' cut)	LF	0	$ 300.00	$ -
13	60" SDR 35, PVC (0'-6' cut)	LF	0	$ 350.00	$ -
14	66" SDR 35, PVC (0'-6' cut)	LF	0	$ 400.00	$ -
15	72" SDR 35, PVC (0'-6' cut)	LF	0	$ 450.00	$ -
	Total Length	**LF**	**21,600**		
16	48" dia. M.H. W.T. & Bolted (0'-6' cut)	EA	43	$ 5,000.00	$ 216,000.00
17	Bore and Case Roadways	LF	1080	$ 130.00	$ 140,400.00
18	Bore and Case Creek Crossings	LF	864	$ 100.00	$ 86,400.00
19	Trench Safety	LF	21,600	$ 2.00	$ 43,200.00
20	Sewer Main Television Inspection	LF	21,600	$ 26.00	$ 561,600.00
21	Erosion Control Devices	LF	21,600	$ 1.00	$ 21,600.00
22	Sewer Junction Structure	EA	0	$ 35,000.00	$ -
23	Lift Station	EA	0	$200,000.00	$ -
	Total Construction				**$ 3,609,200.00**
	Contingencies	10%			$ 360,920.00
	Total				**$ 3,970,120.00**
	Easements	LF	21,600	$ 5.00	$ 108,000.00
	Easements and Surveys and Acquisition Costs	LF	21,600	$ 2.00	$ 43,200.00
	Environmental Investigation	LF	21,600	$ 1.50	$ 32,400.00
	Total Easement Costs				**$ 183,600.00**
	Basic Engineering	10%			$ 397,012.00
	Survey	LF	21,600	$ 2.00	$ 43,200.00
	Construction Phase Services	2%			$ 79,402.40
	Total Engineering Costs				**$ 519,614.40**
	Total Project Costs				**$ 4,673,334.40**

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Green Valley Special Utility District
Wastewater impact Fees and Rates
Neighboring Utilities

Neighboring Utility	Wastewater Impact Fee	Wastewater Connection Fee	Cost of Treatment ($/1000 gal)	Monthly Service Fee
New Braunfels Utilities	$1,160	$655		
City of Seguin	$500	$470		
CCMA	$985		$1.60	
GBRA		$1,000		$32

Green Valley Special Utility District
Wastewater Impact Fees
Main Wastewater Collection System (Trunk Lines)

Drainage Basin	Total EDU 1 (EDU/acre)	Total EDU 3 (EDU/acre)	Dev Density of 1 EDU/acre		Dev Density of 3 EDU/acre	
			Total Costs	Potential Impact Fee	Total Costs	Potential Impact Fee
Drainage Basin A	9,211	27,633	$11,212,950	$1,217	$13,229,734	$479
Drainage Basin B	4,690	14,070	$3,379,449	$721	$3,848,841	$274
Drainage Basin C	5,636	16,908	$4,151,280	$737	$4,773,440	$282
Drainage Basin D	6,688	20,064	$3,072,068	$459	$4,188,876	$209
Drainage Basin E	35,618	106,854	$34,601,813	$971	$43,682,177	$409
Drainage Basin F	6,515	19,545	$5,230,109	$803	$6,739,925	$345
Drainage Basin G	7,511	22,533	$3,963,086	$528	$4,673,334	$207
Total	**75,869**	**227,607**	**$65,610,755**	**$865**	**$81,136,327**	**$356**

Green Valley Special Utility District
Wastewater Impact Fees
Wastewater Treatment Facility

Drainage Basin	Total EDU 1 (EDU/acre)	Total EDU 3 (EDU/acre)	Dev Density of 1 EDU/acre		Dev Density of 3 EDU/acre	
			Total Costs	Potential Impact Fee	Total Costs	Potential Impact Fee
Drainage Basin A	9,211	27,633	$7,898,433	$858	$20,310,255	$735
Drainage Basin B	4,690	14,070	$4,021,675	$858	$12,065,025	$858
Drainage Basin C	5,636	16,908	$4,832,870	$858	$14,498,610	$858
Drainage Basin D	6,688	20,064	$5,734,103	$857	$17,202,308	$857
Drainage Basin E	35,618	106,854	$26,179,965	$735	$39,269,948	$368
Drainage Basin F	6,515	19,545	$5,586,613	$858	$16,759,838	$858
Drainage Basin G	7,511	22,533	$6,440,683	$858	$16,561,755	$735
Total	**75,869**	**227,607**	**$60,694,342**	**$800**	**$136,667,739**	**$600**

Green Valley Special Utility District
Wastewater Impact Fees
Wastewater Treatment Facility

Drainage Basin	Dev Density of 1 EDU/acre			Dev Density of 3 EDU/acre		
	Wastewater Collection Impact fee	Wastewater Treatmrnt Impact fee	Total Impact Fee	Wastewater Collection Impact fee	Wastewater Treatmrnt Impact fee	Total Impact Fee
Drainage Basin A	$1,217	$858	**$ 2,075**	$479	$735	**$1,214**
Drainage Basin B	$721	$858	**$ 1,578**	$274	$858	**$1,131**
Drainage Basin C	$737	$858	**$ 1,594**	$282	$858	**$1,140**
Drainage Basin D	$459	$857	**$ 1,317**	$209	$857	**$1,066**
Drainage Basin E	$971	$735	**$ 1,706**	$409	$368	**$776**
Drainage Basin F	$803	$858	**$ 1,660**	$345	$858	**$1,202**
Drainage Basin G	$528	$858	**$ 1,385**	$207	$735	**$942**

Green Valley Special Utility District Wastewater Treatment Capacity Summary Most Downstream Drainage Basin Location		
Design Flow	1 EDU/Acre	3 EDU/Acre
	Capacity (MGD)	Capacity (MGD)
Drainage Basin A	2.3	6.8
Drainage Basin B	1.1	3.4
Drainage Basin C	1.4	4.1
Drainage Basin D	1.6	4.9
Drainage Basin E	8.7	26.2
Drainage Basin F	1.6	4.8
Drainage Basin G	1.8	5.5

Green Valley Special Utility District Wastewater Treatment Costs Summary Most Downstream Drainage Basin Location		
Design Flow	1 EDU/Acre	3 EDU/Acre
	Costs ($)	Costs ($)
Drainage Basin A	$ 7,898,433	$ 20,310,255
Drainage Basin B	$ 4,021,675	$ 12,065,025
Drainage Basin C	$ 4,832,870	$ 14,498,610
Drainage Basin D	$ 5,734,103	$ 17,202,308
Drainage Basin E	$ 26,179,965	$ 39,269,948
Drainage Basin F	$ 5,586,613	$ 16,759,838
Drainage Basin G	$ 6,440,683	$ 16,561,755

Development Density 3 EDU/acre

Green Valley Special Utility District
Drainage Area A **A**
Wastewater Treatment Plant Costs Study

Collection Point ID	Average Dry Weather Flow (GPD)	Treatment Plant Capacity (MGD)	Unit Costs (dollars/GPD)	Total Costs (dollars)
CP AA1-1	570,360	0.6	$4.00	$2,281,440
CP AA2-1	736,470	0.7	$4.00	$2,945,880
CP AA1-5	3,518,445	3.5	$3.50	$12,314,558
CP AA5-2	4,959,045	5.0	$3.50	$17,356,658
CP AA6-1	6,352,605	6.4	$3.00	$19,057,815
CP AA8-1	6,770,085	6.8	$3.00	$20,310,255

Development Density 1 EDU/acre

Green Valley Special Utility District
Drainage Area A **A**
Wastewater Treatment Plant Costs Study

Collection Point ID	Average Dry Weather Flow (GPD)	Treatment Plant Capacity (MGD)	Unit Costs (dollars/GPD)	Total Costs (dollars)
CP AA1-1	190,120	0.2	$4.00	$760,480
CP AA2-1	245,490	0.2	$4.00	$981,960
CP AA1-5	1,172,815	1.2	$3.50	$4,104,853
CP AA5-2	1,653,015	1.7	$3.50	$5,785,553
CP AA6-1	2,117,535	2.1	$3.50	$7,411,373
CP AA8-1	2,256,695	2.3	$3.50	$7,898,433

Green Valley Special Utility District
Drainage Area A
Wastewater Treatment Plant Capacity and Costs Calculations

3 EDU A

Sewer Main Location			Contributing Area			Population		Average Dry Weather Flow		Maximum Wet Weather		Wastewater Treatment Plant Costs	
1	2	3	4	5	6	7	8	9	10	11	14	15	16
Pipe ID	Up Stream Collection Point	Down Stream Collection Point	Left Side Area (acres)	Right Side Area (acres)	Total Area (acres)	Development Density (3 EDU/acre)	Total EDU (EDU)	Dry Weather Flow (GPD)	Cumulative Dry Weather Flow (GPD)	Wet Weather Flow (GPD)	Cumulative Wet Weather Flow (GPD)	Unit Costs ($/GPD)	Total Costs ($)
Pipe AA1	Upstream	CP AA1-1	256	520	776	3.0	2328	570,360	570,360	2,293,080	2,293,080	$4.00	$2,281,440
Pipe AA1	CP AA1-1	CP AA1-2	177	144	321	3.0	963	235,935	806,295	948,555	3,241,635	$4.00	$3,225,180
Pipe AA1	CP AA1-2	CP AA1-3	169	129	298	3.0	894	219,030	1,025,325	880,590	4,122,225	$3.50	$3,588,638
Pipe AA1	CP AA1-3	CP AA1-4	175	114	289	3.0	867	212,415	1,237,740	853,995	4,976,220	$3.50	$4,332,090
Pipe AA1	CP AA1-4	CP AA1-5	210	73	283	3.0	849	208,005	1,445,745	836,265	5,812,485	$3.50	$5,060,108
1	Total		987	980	1967		5901	1,445,745		5,812,485			
Pipe AA2	Upstream	CP AA2-1	931	71	1002	3.0	3006	736,470	736,470	2,960,910	2,960,910	$4.00	$2,945,880
Pipe AA2	CP AA2-1	CP AA2-2	486	287	773	3.0	2319	568,155	1,304,625	2,284,215	5,245,125	$3.50	$4,566,188
Pipe AA2	CP AA2-2	CP AA2-3	234	394	628	3.0	1884	461,580	1,766,205	1,855,740	7,100,865	$3.50	$6,181,718
Pipe AA2	CP AA2-3	CP AA2-4	131	119	250	3.0	750	183,750	1,949,955	738,750	7,839,615	$3.50	$6,824,843
Pipe AA2	CP AA2-4	CP AA1-5	34	133	167	3.0	501	122,745	2,072,700	493,485	8,333,100	$3.50	$7,254,450
2	Total		1816	1004	2820		8460	2,072,700		8,333,100			
Pipe AA3	Upstream	CP AA3-1	93	246	339	3.0	1017	249,165	249,165	1,001,745	1,001,745	$4.00	$996,660
Pipe AA3	CP AA3-1	CP AA3-2	127	195	322	3.0	966	236,670	485,835	951,510	1,953,255	$4.00	$1,943,340
Pipe AA3	CP AA3-2	CP AA3-3	93	262	355	3.0	1065	260,925	746,760	1,049,025	3,002,280	$4.00	$2,987,040
Pipe AA3	CP AA3-3	CP AA3-4	127	220	347	3.0	1041	255,045	1,001,805	1,025,385	4,027,665	$3.50	$3,506,318
Pipe AA3	CP AA3-4	CP AA6-1	50	240	290	3.0	870	213,150	1,214,955	856,950	4,884,615	$3.50	$4,252,343
3	Total		490	1163	1653		4959	1,214,955		4,884,615			
Pipe AA4	Upstream	CP AA4-1	211	17	228	3.0	684	167,580	167,580	673,740	673,740	$4.00	$670,320
Pipe AA4	CP AA4-1	CP AA4-2	314	69	383	3.0	1149	281,505	449,085	1,131,765	1,805,505	$4.00	$1,796,340
Pipe AA4	CP AA4-2	CP AA4-3	252	36	288	3.0	864	211,680	660,765	851,040	2,656,545	$4.00	$2,643,060
Pipe AA4	CP AA4-3	CP AA5-2	269	72	341	3.0	1023	250,635	911,400	1,007,655	3,664,200	$4.00	$3,645,600
4	Total		1046	194	1240		3720	911,400		3,664,200			
Pipe AA1	Upstream	CP AA1-5	987	980	1967	3.0	5901	1,445,745	1,445,745	5,812,485	5,812,485	$3.50	$5,060,108
Pipe AA2	Upstream	CP AA1-5	1816	1004	2820	3.0	8460	2,072,700	3,518,445	8,333,100	14,145,585	$3.50	$12,314,558
Pipe AA5	CP AA1-5	CP AA5-1	233	103	336	3.0	1008	246,960	3,765,405	992,880	15,138,465	$3.50	$13,178,918
Pipe AA5	CP AA5-1	CP AA5-2	266	118	384	3.0	1152	282,240	4,047,645	1,134,720	16,273,185	$3.50	$14,166,758
5	Total		3302	2205	5507		16521	4,047,645		16,273,185			
Pipe AA4	Upstream	CP AA5-2	1046	194	1240	3.0	3720	911,400	911,400	3,664,200	3,664,200	$4.00	$3,645,600
Pipe AA5	CP AA1-5	CP AA5-2	3302	2205	5507	3.0	16521	4,047,645	4,959,045	16,273,185	19,937,385	$3.50	$17,356,658
Pipe AA6	CP AA5-2	CP AA6-1	181	62	243	3.0	729	178,605	5,137,650	718,065	20,655,450	$3.00	$15,412,950
6	Total		4529	2461	6990		20970	5,137,650		20,655,450			
Pipe AA3	Upstream	CP AA6-1	490	1163	1653	3.0	4959	1,214,955	1,214,955	4,884,615	4,884,615	$3.50	$4,252,343
Pipe AA6	CP AA5-2	CP AA6-1	4529	2461	6990	3.0	20970	5,137,650	6,352,605	20,655,450	25,540,065	$3.00	$19,057,815
Pipe AA7	CP AA6-1	CP AA7-1	208	92	300	3.0	900	220,500	6,573,105	886,500	26,426,565	$3.00	$19,719,315
7	Total		5227	3716	8943		26829	6,573,105		26,426,565			
Pipe AA7	CP AA6-1	CP AA7-1	5227	3716	8943	3.0	26829	6,573,105	6,573,105	26,426,565	26,426,565	$3.00	$19,719,315
Pipe AA8	CP AA7-1	CP AA8-1	253	15	268	3.0	804	196,980	6,770,085	791,940	27,218,505	$3.00	$20,310,255
8	Total		5480	3731	9211		27633	6,770,085		27,218,505			

Design Parameters:

Residential Single Family Units (EDU) =	245	GPD	Average Dry Weather Flow =	245 GPD/EDU
Population per EDU =	3.5	capita/EDU	Maximum Dry Weather Flow =	735 GPD/EDU
Development Average Density =	3	EDU/acre	Maximum Wet Weather Flow =	985 GPD/EDU
Wastewater Demand =	70	GPD/capita		
Maximum Flow Peak Factor =	3			
Inflow/Infiltration =	750	gallon/acres served		

Green Valley Special Utility District
Drainage Area A
Wastewater Treatment Plant Capacity and Costs Calculations

1 EDU A

Sewer Main Location			Contributing Area			Population		Average Dry Weather Flow		Maximum Wet Weather		Wastewater Treatment Plant Costs	
1	2	3	4	5	6	7	8	9	10	11	14	15	16
Pipe ID	Up Stream Collection Point	Down Stream Collection Point	Left Side Area (acres)	Right Side Area (acres)	Total Area (acres)	Development Density (1 EDU/acre)	Total EDU (EDU)	Dry Weather Flow (GPD)	Cumulative Dry Weather Flow (GPD)	Wet Weather Flow (GPD)	Cumulative Wet Weather Flow (GPD)	Unit Costs ($/GPD)	Total Costs ($)
Pipe AA1	Upstream	CP AA1-1	256	520	776	1.0	776	190,120	190,120	1,152,360	1,152,360	$4.00	$760,480
Pipe AA1	CP AA1-1	CP AA1-2	177	144	321	1.0	321	78,645	268,765	476,685	1,629,045	$4.00	$1,075,060
Pipe AA1	CP AA1-2	CP AA1-3	169	129	298	1.0	298	73,010	341,775	442,530	2,071,575	$4.00	$1,367,100
Pipe AA1	CP AA1-3	CP AA1-4	175	114	289	1.0	289	70,805	412,580	429,165	2,500,740	$4.00	$1,650,320
Pipe AA1	CP AA1-4	CP AA1-5	210	73	283	1.0	283	69,335	481,915	420,255	2,920,995	$4.00	$1,927,660
	Total		987	980	1967		1967	481,915		2,920,995			
Pipe AA2	Upstream	CP AA2-1	931	71	1002	1.0	1002	245,490	245,490	1,487,970	1,487,970	$4.00	$981,960
Pipe AA2	CP AA2-1	CP AA2-2	486	287	773	1.0	773	189,385	434,875	1,147,905	2,635,875	$4.00	$2,354,940
Pipe AA2	CP AA2-2	CP AA2-3	234	394	628	1.0	628	153,860	588,735	932,580	3,568,455	$4.00	$2,599,940
Pipe AA2	CP AA2-3	CP AA2-4	131	119	250	1.0	250	61,250	649,985	371,250	3,939,705	$4.00	$2,763,600
Pipe AA2	CP AA2-4	CP AA1-5	34	133	167	1.0	167	40,915	690,900	247,995	4,187,700	$4.00	
	Total		1816	1004	2820		2820	690,900		4,187,700			
Pipe AA3	Upstream	CP AA3-1	93	246	339	1.0	339	83,055	83,055	503,415	503,415	$4.00	$332,220
Pipe AA3	CP AA3-1	CP AA3-2	127	195	322	1.0	322	78,890	161,945	478,170	981,585	$4.00	$647,780
Pipe AA3	CP AA3-2	CP AA3-3	93	262	355	1.0	355	86,975	248,920	527,175	1,508,760	$4.00	$995,680
Pipe AA3	CP AA3-3	CP AA3-4	127	220	347	1.0	347	85,015	333,935	515,295	2,024,055	$4.00	$1,335,740
Pipe AA3	CP AA3-4	CP AA6-1	50	240	290	1.0	290	71,050	404,985	430,650	2,454,705	$4.00	$1,619,940
	Total		490	1163	1653		1653	404,985		2,454,705			
Pipe AA4	Upstream	CP AA4-1	211	17	228	1.0	228	55,860	55,860	338,580	338,580	$4.00	$223,440
Pipe AA4	CP AA4-1	CP AA4-2	314	69	383	1.0	383	93,835	149,695	568,755	907,335	$4.00	$598,780
Pipe AA4	CP AA4-2	CP AA4-3	252	36	288	1.0	288	70,560	220,255	427,680	1,335,015	$4.00	$881,020
Pipe AA4	CP AA4-3	CP AA5-2	269	72	341	1.0	341	83,545	303,800	506,385	1,841,400	$4.00	$1,215,200
	Total		1046	194	1240		1240	303,800		1,841,400			
Pipe AA1	Upstream	CP AA1-5	987	980	1967	1.0	1967	481,915	481,915	2,920,995	2,920,995	$4.00	$1,927,660
Pipe AA2	Upstream	CP AA1-5	1816	1004	2820	1.0	2820	690,900	1,172,815	4,187,700	7,108,695	$3.50	$4,104,853
Pipe AA5	CP AA1-5	CP AA5-1	233	103	336	1.0	336	82,320	1,255,135	498,960	7,607,655	$3.50	$4,392,973
Pipe AA5	CP AA5-1	CP AA5-2	266	118	384	1.0	384	94,080	1,349,215	570,240	8,177,895	$3.50	$4,722,253
	Total		3302	2205	5507		5507	1,349,215		8,177,895			
Pipe AA4	Upstream	CP AA5-2	1046	194	1240	1.0	1240	303,800	303,800	1,841,400	1,841,400	$4.00	$1,215,200
Pipe AA5	CP AA1-5	CP AA5-2	3302	2205	5507	1.0	5507	1,349,215	1,653,015	8,177,895	10,019,295	$3.50	$5,785,553
Pipe AA6	CP AA5-2	CP AA6-1	181	62	243	1.0	243	59,535	1,712,550	360,855	10,380,150	$3.50	$5,993,925
	Total		4529	2461	6990		6990	1,712,550		10,380,150			
Pipe AA3	Upstream	CP AA6-1	490	1163	1653	1.0	1653	404,985	404,985	2,454,705	2,454,705	$4.00	$1,619,940
Pipe AA6	CP AA5-2	CP AA6-1	4529	2461	6990	1.0	6990	1,712,550	2,117,535	10,380,150	12,834,855	$3.50	$7,411,373
Pipe AA7	CP AA6-1	CP AA7-1	208	92	300	1.0	300	73,500	2,191,035	445,500	13,280,355	$3.50	$7,668,623
	Total		5227	3716	8943		8943	2,191,035		13,280,355			
Pipe AA7	CP AA6-1	CP AA7-1	5227	3716	8943	1.0	8943	2,191,035	2,191,035	13,280,355	13,280,355	$3.50	$7,668,623
Pipe AA8	CP AA7-1	CP AA8-1	253	15	268	1.0	268	65,660	2,256,695	397,980	13,678,335	$3.50	$7,898,433
	Total		5480	3731	9211		9211	2,256,695		13,678,335			

Design Parameters:

Residential Single Family Units (EDU) =	245	GPD
Population per EDU =	3.5	capita/EDU
Development Average Density =	1	EDU/acre
Wastewater Demand =	70	GPD/capita
Maximum Flow Peak Factor =	3	
Inflow/Infiltration =	750	gallon/acres served

Average Dry Weather Flow =	245	GPD/EDU
Maximum Dry Weather Flow =	735	GPD/EDU
Maximum Wet Weather Flow =	1485	GPD/EDU

Development Density 3 EDU/acre

Green Valley Special Utility District Drainage Area B Wastewater Treatment Plant Costs Study				B
1	2	3	4	5
Collection Point ID	Average Dry Weather Flow (GPD)	Treatment Plant Capacity (MGD)	Unit Costs (dollars/GPD)	Total Costs (dollars)
CP BB-1	465,990	0.5	$4.00	$1,863,960
CP BB-4	1,609,650	1.6	$3.50	$5,633,775
CP BB-8	3,447,150	3.4	$3.50	$12,065,025

Development Density 1 EDU/acre

Green Valley Special Utility District Drainage Area B Wastewater Treatment Plant Costs Study				B
1	2	3	4	5
Collection Point ID	Average Dry Weather Flow (GPD)	Treatment Plant Capacity (MGD)	Unit Costs (dollars/GPD)	Total Costs (dollars)
CP BB-1	155,330	0.2	$4.00	$621,320
CP BB-4	536,550	0.5	$4.00	$2,146,200
CP BB-8	1,149,050	1.1	$3.50	$4,021,675

Green Valley Special Utility District
Drainage Area B
Wastewater Treatment Plant Capacity and Costs Calculations

3 EDU B

Sewer Main Location			Contributing Area			Population		Average Dry Weather Flow		Maximum Wet Weather		Wastewater Treatment Plant Costs	
1	2	3	4	5	6	7	8	9	10	11	14	15	16
Pipe ID	Up Stream Collection Point	Down Stream Collection Point	Left Side Area (acres)	Right Side Area (acres)	Total Area (acres)	Development Density (3 EDU/acre)	Total EDU (EDU)	Dry Weather Flow (GPD)	Cumulative Dry Weather Flow (GPD)	Wet Weather Flow (GPD)	Cumulative Wet Weather Flow (GPD)	Unit Costs ($/GPD)	Total Costs ($)
Pipe BB	Upstream	CP BB-1	267	367	634	3.0	1902	465,990	465,990	1,873,470	1,873,470	$4.00	$1,863,960
Pipe BB	CP BB-1	CP BB-2	207	287	494	3.0	1482	363,090	829,080	1,459,770	3,333,240	$4.00	$3,316,320
Pipe BB	CP BB-2	CP BB-3	251	229	480	3.0	1440	352,800	1,181,880	1,418,400	4,751,640	$3.50	$4,136,580
Pipe BB	CP BB-3	CP BB-4	366	216	582	3.0	1746	427,770	1,609,650	1,719,810	6,471,450	$3.50	$5,633,775
Pipe BB	CP BB-4	CP BB-5	384	190	574	3.0	1722	421,890	2,031,540	1,696,170	8,167,620	$3.50	$7,110,390
Pipe BB	CP BB-5	CP BB-6	206	285	491	3.0	1473	360,885	2,392,425	1,450,905	9,618,525	$3.50	$8,373,488
Pipe BB	CP BB-6	CP BB-7	209	306	515	3.0	1545	378,525	2,770,950	1,521,825	11,140,350	$3.50	$9,698,325
Pipe BB	CP BB-7	CP BB-8	704	216	920	3.0	2760	676,200	3,447,150	2,718,600	13,858,950	$3.50	$12,065,025
	Total		2594	2096	4690		14070	3,447,150		13,858,950			

Design Parameters:

Residential Single Family Units (EDU) =	245	GPD
Population per EDU =	3.5	capita/EDU
Development Average Density =	3	EDU/acre
Wastewater Demand =	70	GPD/capita
Maximum Flow Peak Factor =	3	
Inflow/Infiltration =	750	gallon/acres served

Average Dry Weather Flow =	245	GPD/EDU
Maximum Dry Weather Flow =	735	GPD/EDU
Maximum Wet Weather Flow =	985	GPD/EDU

Green Valley Special Utility District
Drainage Area B
Wastewater Treatment Plant Capacity and Costs Calculations

1 EDU B

Sewer Main Location			Contributing Area			Population		Average Dry Weather Flow		Maximum Wet Weather		Wastewater Treatment Plant Costs	
1	2	3	4	5	6	7	8	9	10	11	14	15	16
Pipe ID	Up Stream Collection Point	Down Stream Collection Point	Left Side Area (acres)	Right Side Area (acres)	Total Area (acres)	Development Density (1 EDU/acre)	Total EDU (EDU)	Dry Weather Flow (GPD)	Cumulative Dry Weather Flow (GPD)	Wet Weather Flow (GPD)	Cumulative Wet Weather Flow (GPD)	Unit Costs ($/GPD)	Total Costs ($)
Pipe BB	Upstream	CP BB-1	267	367	634	1.0	634	155,330	155,330	941,490	941,490	$4.00	$621,320
Pipe BB	CP BB-1	CP BB-2	207	287	494	1.0	494	121,030	276,360	733,590	1,675,080	$4.00	$1,105,440
Pipe BB	CP BB-2	CP BB-3	251	229	480	1.0	480	117,600	393,960	712,800	2,387,880	$4.00	$1,575,840
Pipe BB	CP BB-3	CP BB-4	366	216	582	1.0	582	142,590	536,550	864,270	3,252,150	$4.00	$2,146,200
Pipe BB	CP BB-4	CP BB-5	384	190	574	1.0	574	140,630	677,180	852,390	4,104,540	$4.00	$2,708,720
Pipe BB	CP BB-5	CP BB-6	206	285	491	1.0	491	120,295	797,475	729,135	4,833,675	$4.00	$3,189,900
Pipe BB	CP BB-6	CP BB-7	209	306	515	1.0	515	126,175	923,650	764,775	5,598,450	$4.00	$3,694,600
Pipe BB	CP BB-7	CP BB-8	704	216	920	1.0	920	225,400	1,149,050	1,366,200	6,964,650	$3.50	$4,021,675
	Total		2594	2096	4690		4690	1,149,050		6,964,650			

Design Parameters:

Residential Single Family Units (EDU) =	245	GPD
Population per EDU =	3.5	capita/EDU
Development Average Density =	1	EDU/acre
Wastewater Demand =	70	GPD/capita
Maximum Flow Peak Factor =	3	
Inflow/Infiltration =	750	gallon/acres served

Average Dry Weather Flow =	245	GPD/EDU
Maximum Dry Weather Flow =	735	GPD/EDU
Maximum Wet Weather Flow =	1485	GPD/EDU

Development Density 3 EDU/acre

Green Valley Special Utility District Drainage Area C Wastewater Treatment Plant Costs Study				C
1	2	3	4	5
Collection Point ID	Average Dry Weather Flow (GPD)	Treatment Plant Capacity (MGD)	Unit Costs (dollars/GPD)	Total Costs (dollars)
CP CC-1	341,040	0.3	$4.00	$1,364,160
CP CC-5	2,009,490	2.0	$3.50	$7,033,215
CP CC-10	4,142,460	4.1	$3.50	$14,498,610

Development Density 1 EDU/acre

Green Valley Special Utility District Drainage Area C Wastewater Treatment Plant Costs Study				C
1	2	3	4	5
Collection Point ID	Average Dry Weather Flow (GPD)	Treatment Plant Capacity (MGD)	Unit Costs (dollars/GPD)	Total Costs (dollars)
CP CC-1	113,680	0.1	$4.00	$454,720
CP CC-5	669,830	0.7	$4.00	$2,679,320
CP CC-10	1,380,820	1.4	$3.50	$4,832,870

Green Valley Special Utility District
Drainage Area C
Wastewater Treatment Plant Capacity and Costs Calculations

3 EDU C

Sewer Main Location			Contributing Area			Population		Average Dry Weather Flow		Maximum Wet Weather		Wastewater Treatment Plant Costs	
1	2	3	4	5	6	7	8	9	10	11	14	15	16
Pipe ID	Up Stream Collection Point	Down Stream Collection Point	Left Side Area (acres)	Right Side Area (acres)	Total Area (acres)	Development Density (EDU/acre)	Total EDU (EDU)	Dry Weather Flow (GPD)	Cumulative Dry Weather Flow (GPD)	Wet Weather Flow (GPD)	Cumulative Wet Weather Flow (GPD)	Unit Costs ($/GPD)	Total Costs ($)
Pipe CC	Upstream	CP CC-1	150	314	464	3.0	1392	341,040	341,040	1,371,120	1,371,120	$4.00	$1,364,160
Pipe CC	CP CC-1	CP CC-2	173	365	538	3.0	1614	395,430	736,470	1,589,790	2,960,910	$4.00	$2,945,880
Pipe CC	CP CC-2	CP CC-3	192	373	565	3.0	1695	415,275	1,151,745	1,669,575	4,630,485	$3.50	$4,031,108
Pipe CC	CP CC-3	CP CC-4	271	331	602	3.0	1806	442,470	1,594,215	1,778,910	6,409,395	$3.50	$5,579,753
Pipe CC	CP CC-4	CP CC-5	332	233	565	3.0	1695	415,275	2,009,490	1,669,575	8,078,970	$3.50	$7,033,215
Pipe CC	CP CC-5	CP CC-6	457	259	716	3.0	2148	526,260	2,535,750	2,115,780	10,194,750	$3.50	$8,875,125
Pipe CC	CP CC-6	CP CC-7	584	203	787	3.0	2361	578,445	3,114,195	2,325,585	12,520,335	$3.50	$10,899,683
Pipe CC	CP CC-7	CP CC-8	520	119	639	3.0	1917	469,665	3,583,860	1,888,245	14,408,580	$3.50	$12,543,510
Pipe CC	CP CC-8	CP CC-9	405	152	557	3.0	1671	409,395	3,993,255	1,645,935	16,054,515	$3.50	$13,976,393
Pipe CC	CP CC-9	CP CC-10	194	9	203	3.0	609	149,205	4,142,460	599,865	16,654,380	$3.50	$14,498,610
	Total		3278	2358	5636		16908	4,142,460		16,654,380			

Design Parameters:

Residential Single Family Units (EDU) =	245	GPD	Average Dry Weather Flow =	245 GPD/EDU
Population per EDU =	3.5	capita/EDU	Maximum Dry Weather Flow =	735 GPD/EDU
Development Average Density =	3	EDU/acre	Maximum Wet Weather Flow =	985 GPD/EDU
Wastewater Demand =	70	GPD/capita		
Maximum Flow Peak Factor =	3			
Inflow/Infiltration =	750	gallon/acres served		

Green Valley Special Utility District
Drainage Area C
Wastewater Treatment Plant Capacity and Costs Calculations

1 EDU C

Sewer Main Location			Contributing Area			Population		Average Dry Weather Flow		Maximum Wet Weather		Wastewater Treatment Plant Costs	
1	2	3	4	5	6	7	8	9	10	11	14	15	16
Pipe ID	Up Stream Collection Point	Down Stream Collection Point	Left Side Area (acres)	Right Side Area (acres)	Total Area (acres)	Development Density (EDU/acre)	Total EDU (EDU)	Dry Weather Flow (GPD)	Cumulative Dry Weather Flow (GPD)	Wet Weather Flow (GPD)	Cumulative Wet Weather Flow (GPD)	Unit Costs ($/GPD)	Total Costs ($)
Pipe CC	Upstream	CP CC-1	150	314	464	1.0	464	113,680	113,680	689,040	689,040	$4.00	$454,720
Pipe CC	CP CC-1	CP CC-2	173	365	538	1.0	538	131,810	245,490	798,930	1,487,970	$4.00	$981,960
Pipe CC	CP CC-2	CP CC-3	192	373	565	1.0	565	138,425	383,915	839,025	2,326,995	$4.00	$1,535,660
Pipe CC	CP CC-3	CP CC-4	271	331	602	1.0	602	147,490	531,405	893,970	3,220,965	$4.00	$2,125,620
Pipe CC	CP CC-4	CP CC-5	332	233	565	1.0	565	138,425	669,830	839,025	4,059,990	$4.00	$2,679,320
Pipe CC	CP CC-5	CP CC-6	457	259	716	1.0	716	175,420	845,250	1,063,260	5,123,250	$4.00	$3,381,000
Pipe CC	CP CC-6	CP CC-7	584	203	787	1.0	787	192,815	1,038,065	1,168,695	6,291,945	$3.50	$3,633,228
Pipe CC	CP CC-7	CP CC-8	520	119	639	1.0	639	156,555	1,194,620	948,915	7,240,860	$3.50	$4,181,170
Pipe CC	CP CC-8	CP CC-9	405	152	557	1.0	557	136,465	1,331,085	827,145	8,068,005	$3.50	$4,658,798
Pipe CC	CP CC-9	CP CC-10	194	9	203	1.0	203	49,735	1,380,820	301,455	8,369,460	$3.50	$4,832,870
	Total		3278	2358	5636		5636	1,380,820		8,369,460			

Design Parameters:

Residential Single Family Units (EDU) =	245	GPD	Average Dry Weather Flow =	245 GPD/EDU
Population per EDU =	3.5	capita/EDU	Maximum Dry Weather Flow =	735 GPD/EDU
Development Average Density =	1	EDU/acre	Maximum Wet Weather Flow =	1485 GPD/EDU
Wastewater Demand =	70	GPD/capita		
Maximum Flow Peak Factor =	3			
Inflow/Infiltration =	750	gallon/acres served		

Development Density 3 EDU/acre

Green Valley Special Utility District Drainage Area D Wastewater Treatment Plant Costs Study				D
1	2	3	4	5
Collection Point ID	Average Dry Weather Flow (GPD)	Treatment Plant Capacity (MGD)	Unit Costs (dollars/GPD)	Total Costs (dollars)
CP DD-1	1,079,715	1.1	$3.50	$3,779,003
CP DD-4	3,476,550	3.5	$3.50	$12,167,925
CP DD-7	4,914,945	4.9	$3.50	$17,202,308

Development Density 1 EDU/acre

Green Valley Special Utility District Drainage Area D Wastewater Treatment Plant Costs Study				D
1	2	3	4	5
Collection Point ID	Average Dry Weather Flow (GPD)	Treatment Plant Capacity (MGD)	Unit Costs (dollars/GPD)	Total Costs (dollars)
CP DD-1	359,905	0.4	$4.00	$1,439,620
CP DD-4	1,158,850	1.2	$3.50	$4,055,975
CP DD-7	1,638,315	1.6	$3.50	$5,734,103

Green Valley Special Utility District
Drainage Area D
Wastewater Treatment Plant Capacity and Costs Calculations

3 EDU D

Sewer Main Location			Contributing Area			Population		Average Dry Weather Flow		Maximum Wet Weather		Wastewater Treatment Plant Costs	
1	2	3	4	5	6	7	8	9	10	11	14	15	16
Pipe ID	Up Stream Collection Point	Down Stream Collection Point	Left Side Area (acres)	Right Side Area (acres)	Total Area (acres)	Development Density (3 EDU/acre)	Total EDU (EDU)	Dry Weather Flow (GPD)	Cumulative Dry Weather Flow (GPD)	Wet Weather Flow (GPD)	Cumulative Wet Weather Flow (GPD)	Unit Costs ($/GPD)	Total Costs ($)
Pipe DD	Upstream	CP DD-1	401	1068	1469	3.0	4407	1,079,715	1,079,715	4,340,895	4,340,895	$3.50	$3,779,003
Pipe DD	CP DD-1	CP DD-2	374	815	1189	3.0	3567	873,915	1,953,630	3,513,495	7,854,390	$3.50	$6,837,705
Pipe DD	CP DD-2	CP DD-3	411	725	1136	3.0	3408	834,960	2,788,590	3,356,880	11,211,270	$3.50	$9,760,065
Pipe DD	CP DD-3	CP DD-4	326	610	936	3.0	2808	687,960	3,476,550	2,765,880	13,977,150	$3.50	$12,167,925
Pipe DD	CP DD-4	CP DD-5	376	466	842	3.0	2526	618,870	4,095,420	2,488,110	16,465,260	$3.50	$14,333,970
Pipe DD	CP DD-5	CP DD-6	407	283	690	3.0	2070	507,150	4,602,570	2,038,950	18,504,210	$3.50	$16,108,995
Pipe DD	CP DD-6	CP DD-7	297	128	425	3.0	1275	312,375	4,914,945	1,255,875	19,760,085	$3.50	$17,202,308
	Total		2592	4095	6687		20061	4,914,945		19,760,085			

Design Parameters:

Residential Single Family Units (EDU) =	245	GPD	Average Dry Weather Flow =	245	GPD/EDU
Population per EDU =	3.5	capita/EDU	Maximum Dry Weather Flow =	735	GPD/EDU
Development Average Density =	3	EDU/acre	Maximum Wet Weather Flow =	985	GPD/EDU
Wastewater Demand =	70	GPD/capita			
Maximum Flow Peak Factor =	3				
Inflow/Infiltration =	750	gallon/acres served			

Green Valley Special Utility District
Drainage Area D
Wastewater Treatment Plant Capacity and Costs Calculations

1 EDU D

Sewer Main Location			Contributing Area			Population		Average Dry Weather Flow		Maximum Wet Weather		Wastewater Treatment Plant Costs	
1	2	3	4	5	6	7	8	9	10	11	14	15	16
Pipe ID	Up Stream Collection Point	Down Stream Collection Point	Left Side Area (acres)	Right Side Area (acres)	Total Area (acres)	Development Density (1 EDU/acre)	Total EDU (EDU)	Dry Weather Flow (GPD)	Cumulative Dry Weather Flow (GPD)	Wet Weather Flow (GPD)	Cumulative Wet Weather Flow (GPD)	Unit Costs ($/GPD)	Total Costs ($)
Pipe DD	Upstream	CP DD-1	401	1068	1469	1.0	1469	359,905	359,905	2,181,465	2,181,465	$4.00	$1,439,620
Pipe DD	CP DD-1	CP DD-2	374	815	1189	1.0	1189	291,305	651,210	1,765,665	3,947,130	$4.00	$2,604,840
Pipe DD	CP DD-2	CP DD-3	411	725	1136	1.0	1136	278,320	929,530	1,686,960	5,634,090	$4.00	$3,718,120
Pipe DD	CP DD-3	CP DD-4	326	610	936	1.0	936	229,320	1,158,850	1,389,960	7,024,050	$3.50	$4,055,975
Pipe DD	CP DD-4	CP DD-5	376	466	842	1.0	842	206,290	1,365,140	1,250,370	8,274,420	$3.50	$4,777,990
Pipe DD	CP DD-5	CP DD-6	407	283	690	1.0	690	169,050	1,534,190	1,024,650	9,299,070	$3.50	$5,369,665
Pipe DD	CP DD-6	CP DD-7	297	128	425	1.0	425	104,125	1,638,315	631,125	9,930,195	$3.50	$5,734,103
	Total		2592	4095	6687		6687	1,638,315		9,930,195			

Design Parameters:

Residential Single Family Units (EDU) =	245	GPD	Average Dry Weather Flow =	245	GPD/EDU
Population per EDU =	3.5	capita/EDU	Maximum Dry Weather Flow =	735	GPD/EDU
Development Average Density =	1	EDU/acre	Maximum Wet Weather Flow =	1485	GPD/EDU
Wastewater Demand =	70	GPD/capita			
Maximum Flow Peak Factor =	3				
Inflow/Infiltration =	750	gallon/acres served			

Development Density 3 EDU/acre

Green Valley Special Utility District Drainage Area E Wastewater Treatment Plant Costs Study				E
1	2	3	4	5
Collection Point ID	Average Dry Weather Flow (GPD)	Treatment Plant Capacity (MGD)	Unit Costs (dollars/GPD)	Total Costs (dollars)
CP EE1-1	1,394,295	1.4	$3.50	$4,880,033
CP EE1-7	4,694,445	4.7	$3.50	$16,430,558
CP EE2-1	2,110,185	2.1	$3.50	$7,385,648
CP EE2-7	5,247,165	5.2	$3.00	$15,741,495
CP EE3-1	895,230	0.9	$4.00	$3,580,920
CP EE3-3	1,855,875	1.9	$3.50	$6,495,563
CP EE1-13	14,318,535	14.3	$2.50	$35,796,338
CP EE4-3	19,331,235	19.3	$2.00	$38,662,470
CP EE5-4	23,497,215	23.5	$1.75	$41,120,126
CP EE5-9	26,179,965	26.2	$1.50	$39,269,948

Development Density 1 EDU/acre

Green Valley Special Utility District Drainage Area E Wastewater Treatment Plant Costs Study				E
1	2	3	4	5
Collection Point ID	Average Dry Weather Flow (GPD)	Treatment Plant Capacity (MGD)	Unit Costs (dollars/GPD)	Total Costs (dollars)
CP EE1-1	464,765	0.5	$4.00	$1,859,060
CP EE1-7	1,564,815	1.6	$3.50	$5,476,853
CP EE2-1	703,395	0.7	$4.00	$2,813,580
CP EE2-7	1,749,055	1.7	$3.50	$6,121,693
CP EE3-1	298,410	0.3	$4.00	$1,193,640
CP EE3-3	618,625	0.6	$4.00	$2,474,500
CP EE1-13	4,772,845	4.8	$3.50	$16,704,958
CP EE4-3	6,443,745	6.4	$3.00	$19,331,235
CP EE5-4	7,832,405	7.8	$3.00	$23,497,215
CP EE5-9	8,726,655	8.7	$3.00	$26,179,965

Green Valley Special Utility District
Drainage Area E
Wastewater Treatment Plant Capacity and Costs Calculations

3 EDU E

Sewer Main Location			Contributing Area			Population		Average Dry Weather Flow		Maximum Wet Weather		Wastewater Treatment Plant Costs	
1	2	3	4	5	6	7	8	9	10	11	14	15	16
Pipe ID	Up Stream Collection Point	Down Stream Collection Point	Left Side Area (acres)	Right Side Area (acres)	Total Area (acres)	Development Density (3 EDU/acre)	Total EDU (EDU)	Dry Weather Flow (GPD)	Cumulative Dry Weather Flow (GPD)	Wet Weather Flow (GPD)	Cumulative Wet Weather Flow (GPD)	Unit Costs ($/GPD)	Total Costs ($)
Pipe EE1	Upstream	CP EE1-1	442	1455	1897	3.0	5691	1,394,295	1,394,295	5,605,635	5,605,635	$3.50	$4,880,033
Pipe EE1	CP EE1-1	CP EE1-2	311	476	787	3.0	2361	578,445	1,972,740	2,325,585	7,931,220	$3.50	$6,904,590
Pipe EE1	CP EE1-2	CP EE1-3	365	424	789	3.0	2367	579,915	2,552,655	2,331,495	10,262,715	$3.50	$8,934,293
Pipe EE1	CP EE1-3	CP EE1-4	419	383	802	3.0	2406	589,470	3,142,125	2,369,910	12,632,625	$3.50	$10,997,438
Pipe EE1	CP EE1-4	CP EE1-5	517	343	860	3.0	2580	632,100	3,774,225	2,541,300	15,173,925	$3.50	$13,209,788
Pipe EE1	CP EE1-5	CP EE1-6	58	302	360	3.0	1080	264,600	4,038,825	1,063,800	16,237,725	$3.50	$14,135,888
Pipe EE1	CP EE1-6	CP EE1-7	625	267	892	3.0	2676	655,620	4,694,445	2,635,860	18,873,585	$3.50	$16,430,558
Pipe EE1	CP EE1-7	CP EE1-8	646	259	905	3.0	2715	665,175	5,359,620	2,674,275	21,547,860	$3.00	$16,078,860
Pipe EE1	CP EE1-8	CP EE1-9	471	255	726	3.0	2178	533,610	5,893,230	2,145,330	23,693,190	$3.00	$17,679,690
Pipe EE1	CP EE1-9	CP EE1-10	416	248	664	3.0	1992	488,040	6,381,270	1,962,120	25,655,310	$3.00	$19,143,810
Pipe EE1	CP EE1-10	CP EE1-11	381	224	605	3.0	1815	444,675	6,825,945	1,787,775	27,443,085	$3.00	$20,477,835
Pipe EE1	CP EE1-11	CP EE1-12	312	167	479	3.0	1437	352,065	7,178,010	1,415,445	28,858,530	$3.00	$21,534,030
Pipe EE1	CP EE1-12	CP EE1-13	250	130	380	3.0	1140	279,300	7,457,310	1,122,900	29,981,430	$3.00	$22,371,930
Pipe EE1	Total		5213	4933	10146		30438	7,457,310		29,981,430			
Pipe EE2	Upstream	CP EE2-1	574	2297	2871	3.0	8613	2,110,185	2,110,185	8,483,805	8,483,805	$3.50	$7,385,648
Pipe EE2	CP EE2-1	CP EE2-2	347	519	866	3.0	2598	636,510	2,746,695	2,559,030	11,042,835	$3.50	$9,613,433
Pipe EE2	CP EE2-2	CP EE2-3	322	484	806	3.0	2418	592,410	3,339,105	2,381,730	13,424,565	$3.50	$11,686,868
Pipe EE2	CP EE2-3	CP EE2-4	279	464	743	3.0	2229	546,105	3,885,210	2,195,565	15,620,130	$3.50	$13,598,235
Pipe EE2	CP EE2-4	CP EE2-5	273	419	692	3.0	2076	508,620	4,393,830	2,044,860	17,664,990	$3.50	$15,378,405
Pipe EE2	CP EE2-5	CP EE2-6	266	406	672	3.0	2016	493,920	4,887,750	1,985,760	19,650,750	$3.50	$17,107,125
Pipe EE2	CP EE2-6	CP EE2-7	260	229	489	3.0	1467	359,415	5,247,165	1,444,995	21,095,745	$3.00	$15,741,495
Pipe EE2	CP EE2-7	CP EE2-8	253	151	404	3.0	1212	296,940	5,544,105	1,193,820	22,289,565	$3.00	$16,632,315
Pipe EE2	CP EE2-8	CP EE2-9	247	135	382	3.0	1146	280,770	5,824,875	1,128,810	23,418,375	$3.00	$17,474,625
Pipe EE2	CP EE2-9	CP EE2-10	232	142	374	3.0	1122	274,890	6,099,765	1,105,170	24,523,545	$3.00	$18,299,295
Pipe EE2	CP EE2-10	CP EE2-11	183	161	344	3.0	1032	252,840	6,352,605	1,016,520	25,540,065	$3.00	$19,057,815
Pipe EE2	CP EE2-11	CP EE2-12	140	151	291	3.0	873	213,885	6,566,490	859,905	26,399,970	$3.00	$19,699,470
Pipe EE2	CP EE2-12	CP EE2-13	110	291	401	3.0	1203	294,735	6,861,225	1,184,955	27,584,925	$3.00	$20,583,675
Pipe EE2	CP EE2-13	CP EE1-13	0	0	0	3.0	0	0	6,861,225	0	27,584,925		
Pipe EE2	Total		3486	5849	9335		28005	6,861,225		27,584,925			
Pipe EE3	Upstream	CP EE3-1	1168	50	1218	3.0	3654	895,230	895,230	3,599,190	3,599,190	$4.00	$3,580,920
Pipe EE3	CP EE3-1	CP EE3-2	619	179	798	3.0	2394	586,530	1,481,760	2,358,090	5,957,280	$3.50	$5,186,160
Pipe EE3	CP EE3-2	CP EE3-3	477	32	509	3.0	1527	374,115	1,855,875	1,504,095	7,461,375	$3.50	$6,495,563
Pipe EE3	CP EE3-3	CP EE3-4	334	509	843	3.0	2529	619,605	2,475,480	2,491,065	9,952,440	$3.50	$8,664,180
Pipe EE3	CP EE3-4	CP EE3-5	192	628	820	3.0	2460	602,700	3,078,180	2,423,100	12,375,540	$3.50	$10,773,630
Pipe EE3	CP EE3-5	CP EE4-3	51	805	856	3.0	2568	629,160	3,707,340	2,529,480	14,905,020	$3.50	$12,975,690
Pipe EE3	Total		2841	2203	5044		15132	3,707,340		14,905,020			
Pipe EE1	Upstream	CP EE1-13	5213	4933	10146	3.0	30438	7,457,310	7,457,310	29,981,430	29,981,430	$3.00	$22,371,930
Pipe EE2	Upstream	CP EE2-13	3486	5849	9335	3.0	28005	6,861,225	14,318,535	27,584,925	57,566,355	$2.50	$35,796,338
Pipe EE4	CP EE1-13	CP EE4-1	184	466	650	3.0	1950	477,750	14,796,285	1,920,750	59,487,105	$2.50	$36,990,713
Pipe EE4	CP EE4-1	CP EE4-2	106	414	520	3.0	1560	382,200	15,178,485	1,536,600	61,023,705	$2.00	$30,356,970
Pipe EE4	CP EE4-2	CP EE4-3	28	578	606	3.0	1818	445,410	15,623,895	1,790,730	62,814,435	$2.00	$31,247,790
Pipe EE4	Total		9017	12240	21257		63771	15,623,895		62,814,435			
Pipe EE3	Upstream	CP EE4-3	2841	2203	5044	3.0	15132	3,707,340	3,707,340	14,905,020	14,905,020	$3.50	$12,975,690
Pipe EE4	CP EE1-13	CP EE4-3	9017	12240	21257	3.0	63771	15,623,895	19,331,235	62,814,435	77,719,455	$2.00	$38,662,470
Pipe EE5	CP EE4-3	CP EE5-1	925	607	1532	3.0	4596	1,126,020	20,457,255	4,527,060	82,246,515	$1.75	$35,800,196
Pipe EE5	CP EE5-1	CP EE5-2	1036	644	1680	3.0	5040	1,234,800	21,692,055	4,964,400	87,210,915	$1.75	$37,961,096
Pipe EE5	CP EE5-2	CP EE5-3	1003	585	1588	3.0	4764	1,167,180	22,859,235	4,692,540	91,903,455	$1.75	$40,003,661
Pipe EE5	CP EE5-3	CP EE5-4	801	67	868	3.0	2604	637,980	23,497,215	2,564,940	94,468,395	$1.75	$41,120,128
Pipe EE5	CP EE5-4	CP EE5-5	650	621	1271	3.0	3813	934,185	24,431,400	3,755,805	98,224,200	$1.75	$42,754,950
Pipe EE5	CP EE5-5	CP EE5-6	375	567	942	3.0	2826	692,370	25,123,770	2,783,610	101,007,810	$1.50	$37,685,655
Pipe EE5	CP EE5-6	CP EE5-7	17	665	682	3.0	2046	501,270	25,625,040	2,015,310	103,023,120	$1.50	$38,437,560
Pipe EE5	CP EE5-7	CP EE5-8	0	564	564	3.0	1692	414,540	26,039,580	1,666,620	104,689,740	$1.50	$39,059,370
Pipe EE5	CP EE5-8	CP EE1-9	0	191	191	3.0	573	140,385	26,179,965	564,405	105,254,145	$1.50	$39,269,948
Pipe EE5	Total		16665	18954	35619		106857	26,179,965		105,254,145			

Design Parameters:

Residential Single Family Units (EDU) =	245	GPD
Population per EDU =	3.5	capita/EDU
Development Average Density =	3	EDU/acre
Wastewater Demand =	70	GPD/capita
Maximum Flow Peak Factor =	3	
Inflow/Infiltration =	750	gallon/acres served

Average Dry Weather Flow =	245	GPD/EDU
Maximum Dry Weather Flow =	735	GPD/EDU
Maximum Wet Weather Flow =	985	GPD/EDU

Green Valley Special Utility District
Drainage Area E
Wastewater Treatment Plant Capacity and Costs Calculations

1 EDU E

Sewer Main Location			Contributing Area			Population		Average Dry Weather Flow		Maximum Wet Weather		Wastewater Treatment Plant Costs	
1	2	3	4	5	6	7	8	9	10	11	14	15	16
Pipe ID	Up Stream Collection Point	Down Stream Collection Point	Left Side Area (acres)	Right Side Area (acres)	Total Area (acres)	Development Density (1 EDU/acre)	Total EDU (EDU)	Dry Weather Flow (GPD)	Cumulative Dry Weather Flow (GPD)	Wet Weather Flow (GPD)	Cumulative Wet Weather Flow (GPD)	Unit Costs ($/GPD)	Total Costs ($)
Pipe EE1	Upstream	CP EE1-1	442	1455	1897	1.0	1897	464,765	464,765	2,817,045	2,817,045	$4.00	$1,859,060
Pipe EE1	CP EE1-1	CP EE1-2	311	476	787	1.0	787	192,815	657,580	1,168,695	3,985,740	$4.00	$2,630,320
Pipe EE1	CP EE1-2	CP EE1-3	365	424	789	1.0	789	193,305	850,885	1,171,665	5,157,405	$4.00	$3,403,540
Pipe EE1	CP EE1-3	CP EE1-4	419	383	802	1.0	802	196,490	1,047,375	1,190,970	6,348,375	$3.50	$3,665,813
Pipe EE1	CP EE1-4	CP EE1-5	517	343	860	1.0	860	210,700	1,258,075	1,277,100	7,625,475	$3.50	$4,403,263
Pipe EE1	CP EE1-5	CP EE1-6	58	302	360	1.0	360	88,200	1,346,275	534,600	8,160,075	$3.50	$4,711,963
Pipe EE1	CP EE1-6	CP EE1-7	625	267	892	1.0	892	218,540	1,564,815	1,324,620	9,484,695	$3.50	$5,476,853
Pipe EE1	CP EE1-7	CP EE1-8	646	259	905	1.0	905	221,725	1,786,540	1,343,925	10,828,620	$3.50	$6,252,890
Pipe EE1	CP EE1-8	CP EE1-9	471	255	726	1.0	726	177,870	1,964,410	1,078,110	11,906,730	$3.50	$6,875,435
Pipe EE1	CP EE1-9	CP EE1-10	416	248	664	1.0	664	162,680	2,127,090	986,040	12,892,770	$3.50	$7,444,815
Pipe EE1	CP EE1-10	CP EE1-11	381	224	605	1.0	605	148,225	2,275,315	898,425	13,791,195	$3.50	$7,963,603
Pipe EE1	CP EE1-11	CP EE1-12	312	167	479	1.0	479	117,355	2,392,670	711,315	14,502,510	$3.50	$8,374,345
Pipe EE1	CP EE1-12	CP EE1-13	250	130	380	1.0	380	93,100	2,485,770	564,300	15,066,810	$3.50	$8,700,195
	Total		5213	4933	10146		10146	2,485,770		15,066,810			
Pipe EE2	Upstream	CP EE2-1	574	2297	2871	1.0	2871	703,395	703,395	4,263,435	4,263,435	$4.00	$2,813,580
Pipe EE2	CP EE2-1	CP EE2-2	347	519	866	1.0	866	212,170	915,565	1,286,010	5,549,445	$4.00	$3,662,260
Pipe EE2	CP EE2-2	CP EE2-3	322	484	806	1.0	806	197,470	1,113,035	1,196,910	6,746,355	$3.50	$3,895,623
Pipe EE2	CP EE2-3	CP EE2-4	279	464	743	1.0	743	182,035	1,295,070	1,103,355	7,849,710	$3.50	$4,532,745
Pipe EE2	CP EE2-4	CP EE2-5	273	419	692	1.0	692	169,540	1,464,610	1,027,620	8,877,330	$3.50	$5,126,135
Pipe EE2	CP EE2-5	CP EE2-6	266	406	672	1.0	672	164,640	1,629,250	997,920	9,875,250	$3.50	$5,702,375
Pipe EE2	CP EE2-6	CP EE2-7	280	229	489	1.0	489	119,805	1,749,055	726,165	10,601,415	$3.50	$6,121,693
Pipe EE2	CP EE2-7	CP EE2-8	253	151	404	1.0	404	98,980	1,848,035	599,940	11,201,355	$3.50	$6,468,123
Pipe EE2	CP EE2-8	CP EE2-9	247	135	382	1.0	382	93,590	1,941,625	567,270	11,768,625	$3.50	$6,795,688
Pipe EE2	CP EE2-9	CP EE2-10	232	142	374	1.0	374	91,630	2,033,255	555,390	12,324,015	$3.50	$7,116,393
Pipe EE2	CP EE2-10	CP EE2-11	183	161	344	1.0	344	84,280	2,117,535	510,840	12,834,855	$3.50	$7,411,373
Pipe EE2	CP EE2-11	CP EE2-12	140	151	291	1.0	291	71,295	2,188,830	432,135	13,266,990	$3.50	$7,660,905
Pipe EE2	CP EE2-12	CP EE2-13	110	291	401	1.0	401	98,245	2,287,075	595,485	13,862,475	$3.50	$8,004,763
Pipe EE2	CP EE2-13	CP EE1-13	0	0	0	1.0	0	0	2,287,075	0	13,862,475	$3.50	$8,004,763
	Total		3486	5849	9335		9335	2,287,075		13,862,475			
Pipe EE3	Upstream	CP EE3-1	1168	50	1218	1.0	1218	298,410	298,410	1,808,730	1,808,730	$4.00	$1,193,640
Pipe EE3	CP EE3-1	CP EE3-2	619	179	798	1.0	798	195,510	493,920	1,185,030	2,993,760	$4.00	$1,975,680
Pipe EE3	CP EE3-2	CP EE3-3	477	32	509	1.0	509	124,705	618,625	755,865	3,749,625	$4.00	$2,474,500
Pipe EE3	CP EE3-3	CP EE3-4	334	509	843	1.0	843	206,535	825,160	1,251,855	5,001,480	$4.00	$3,300,640
Pipe EE3	CP EE3-4	CP EE3-5	192	628	820	1.0	820	200,900	1,026,060	1,217,700	6,219,180	$3.50	$3,591,210
Pipe EE3	CP EE3-5	CP EE4-3	51	805	856	1.0	856	209,720	1,235,780	1,271,160	7,490,340	$3.50	$4,325,230
	Total		2841	2203	5044		5044	1,235,780		7,490,340			
Pipe EE1	Upstream	CP EE1-13	5213	4933	10146	1.0	10146	2,485,770	2,485,770	15,066,810	15,066,810	$3.50	$8,700,195
Pipe EE2	Upstream	CP EE1-13	3486	5849	9335	1.0	9335	2,287,075	4,772,845	13,862,475	28,929,285	$3.50	$16,704,958
Pipe EE4	CP EE1-13	CP EE4-1	184	466	650	1.0	650	159,250	4,932,095	965,250	29,894,535	$3.50	$17,262,333
Pipe EE4	CP EE4-1	CP EE4-2	106	414	520	1.0	520	127,400	5,059,495	772,200	30,666,735	$3.00	$15,178,485
Pipe EE4	CP EE4-2	CP EE4-3	28	578	606	1.0	606	148,470	5,207,965	899,910	31,566,645	$3.00	$15,623,895
	Total		9017	12240	21257		21257	5,207,965		31,566,645			
Pipe EE3	Upstream	CP EE4-3	2841	2203	5044	1.0	5044	1,235,780	1,235,780	7,490,340	7,490,340	$3.50	$4,325,230
Pipe EE4	CP EE1-13	CP EE4-3	9017	12240	21257	1.0	21257	5,207,965	6,443,745	31,566,645	39,056,985	$3.00	$19,331,235
Pipe EE5	CP EE4-3	CP EE5-1	925	607	1532	1.0	1532	375,340	6,819,085	2,275,020	41,332,005	$3.00	$20,457,255
Pipe EE5	CP EE5-1	CP EE5-2	1036	644	1680	1.0	1680	411,600	7,230,685	2,494,800	43,826,805	$3.00	$21,692,055
Pipe EE5	CP EE5-2	CP EE5-3	1003	585	1588	1.0	1588	389,060	7,619,745	2,358,180	46,184,985	$3.00	$22,859,235
Pipe EE5	CP EE5-3	CP EE5-4	801	67	868	1.0	868	212,660	7,832,405	1,288,980	47,473,965	$3.00	$23,497,215
Pipe EE5	CP EE5-4	CP EE5-5	650	621	1271	1.0	1271	311,395	8,143,800	1,887,435	49,361,400	$3.00	$24,431,400
Pipe EE5	CP EE5-5	CP EE5-6	375	567	942	1.0	942	230,790	8,374,590	1,398,870	50,760,270	$3.00	$25,123,770
Pipe EE5	CP EE5-6	CP EE5-7	17	665	682	1.0	682	167,090	8,541,680	1,012,770	51,773,040	$3.00	$25,625,040
Pipe EE5	CP EE5-7	CP EE5-8	0	564	564	1.0	564	138,180	8,679,860	837,540	52,610,580	$3.00	$26,039,580
Pipe EE5	CP EE5-8	CP EE5-9	0	191	191	1.0	191	46,795	8,726,655	283,635	52,894,215	$3.00	$26,179,965
	Total		16665	18954	35619		35619	8,726,655		52,894,215			

Design Parameters:

Residential Single Family Units (EDU) =	245	GPD	Average Dry Weather Flow =	245	GPD/EDU
Population per EDU =	3.5	capita/EDU	Maximum Dry Weather Flow =	735	GPD/EDU
Development Average Density =	1	EDU/acre	Maximum Wet Weather Flow =	1485	GPD/EDU
Wastewater Demand =	70	GPD/capita			
Maximum Flow Peak Factor =	3				
Inflow/Infiltration =	750	gallon/acres served			

Development Density 3 EDU/acre

Green Valley Special Utility District Drainage Area F Wastewater Treatment Plant Costs Study				F
1	2	3	4	5
Collection Point ID	Average Dry Weather Flow (GPD)	Treatment Plant Capacity (MGD)	Unit Costs (dollars/GPD)	Total Costs (dollars)
CP FF 1	622,545	0.6	$4.00	$2,490,180
CP FF 6	3,196,515	3.2	$3.50	$11,187,803
CP FF 11	4,788,525	4.8	$3.50	$16,759,838

Development Density 1 EDU/acre

Green Valley Special Utility District Drainage Area F Wastewater Treatment Plant Costs Study				F
1	2	3	4	5
Collection Point ID	Average Dry Weather Flow (GPD)	Treatment Plant Capacity (MGD)	Unit Costs (dollars/GPD)	Total Costs (dollars)
CP FF 1	207,515	0.2	$4.00	$830,060
CP FF 6	1,065,505	1.1	$3.50	$3,729,268
CP FF 11	1,596,175	1.6	$3.50	$5,586,613

Green Valley Special Utility District
Drainage Area F
Wastewater Treatment Plant Capacity and Costs Calculations

3 EDU F

Sewer Main Location			Contributing Area			Population		Average Dry Weather Flow		Maximum Wet Weather		Wastewater Treatment Plant Costs	
1	2	3	4	5	6	7	8	9	10	11	14	15	16
Pipe ID	Up Stream Collection Point	Down Stream Collection Point	Left Side Area (acres)	Right Side Area (acres)	Total Area (acres)	Development Density (3 EDU/acre)	Total EDU (EDU)	Dry Weather Flow (GPD)	Cumulative Dry Weather Flow (GPD)	Wet Weather Flow (GPD)	Cumulative Wet Weather Flow (GPD)	Unit Costs ($/GPD)	Total Costs ($)
Pipe FF	Upstream	**CP FF 1**	**233**	**614**	**847**	**3.0**	**2541**	**622,545**	**622,545**	2,502,885	2,502,885	$4.00	**$2,490,180**
Pipe FF	CP FF 1	CP FF 2	343	379	722	3.0	2166	530,670	1,153,215	2,133,510	4,636,395	$3.50	$4,036,253
Pipe FF	CP FF 2	CP FF 3	291	389	680	3.0	2040	499,800	1,653,015	2,009,400	6,645,795	$3.50	$5,785,553
Pipe FF	CP FF 3	CP FF 4	229	451	680	3.0	2040	499,800	2,152,815	2,009,400	8,655,195	$3.50	$7,534,853
Pipe FF	CP FF 4	CP FF 5	239	500	739	3.0	2217	543,165	2,695,980	2,183,745	10,838,940	$3.50	$9,435,930
Pipe FF	CP FF 5	**CP FF 6**	**229**	**452**	**681**	**3.0**	**2043**	**500,535**	**3,196,515**	2,012,355	12,851,295	$3.50	**$11,187,803**
Pipe FF	CP FF 6	CP FF 7	284	313	597	3.0	1791	438,795	3,635,310	1,764,135	14,615,430	$3.50	$12,723,585
Pipe FF	CP FF 7	CP FF 8	233	295	528	3.0	1584	388,080	4,023,390	1,560,240	16,175,670	$3.50	$14,081,865
Pipe FF	CP FF 8	CP FF 9	89	363	452	3.0	1356	332,220	4,355,610	1,335,660	17,511,330	$3.50	$15,244,635
Pipe FF	CP FF 9	CP FF 10	86	250	336	3.0	1008	246,960	4,602,570	992,880	18,504,210	$3.50	$16,108,995
Pipe FF	CP FF 10	**CP FF 11**	**171**	**82**	**253**	**3.0**	**759**	**185,955**	**4,788,525**	747,615	19,251,825	$3.50	**$16,759,838**
Total			2427	4088	6515		19545	4,788,525		19,251,825			

Design Parameters:

Residential Single Family Units (EDU) =	245	GPD	Average Dry Weather Flow =	245	GPD/EDU
Population per EDU =	3.5	capita/EDU	Maximum Dry Weather Flow =	735	GPD/EDU
Development Average Density =	3	EDU/acre	Maximum Wet Weather Flow =	985	GPD/EDU
Wastewater Demand =	70	GPD/capita			
Maximum Flow Peak Factor =	3				
Inflow/Infiltration =	750	gallon/acres served			

Green Valley Special Utility District
Drainage Area F
Wastewater Treatment Plant Capacity and Costs Calculations

1 EDU F

Sewer Main Location			Contributing Area			Population		Average Dry Weather Flow		Maximum Wet Weather		Wastewater Treatment Plant Costs	
1	2	3	4	5	6	7	8	9	10	11	14	15	16
Pipe ID	Up Stream Collection Point	Down Stream Collection Point	Left Side Area (acres)	Right Side Area (acres)	Total Area (acres)	Development Density (1 EDU/acre)	Total EDU (EDU)	Dry Weather Flow (GPD)	Cumulative Dry Weather Flow (GPD)	Wet Weather Flow (GPD)	Cumulative Wet Weather Flow (GPD)	Unit Costs ($/GPD)	Total Costs ($)
Pipe FF	Upstream	**CP FF 1**	**233**	**614**	**847**	**1.0**	**847**	**207,515**	**207,515**	1,257,795	1,257,795	$4.00	**$830,060**
Pipe FF	CP FF 1	CP FF 2	343	379	722	1.0	722	176,890	384,405	1,072,170	2,329,965	$4.00	$1,537,620
Pipe FF	CP FF 2	CP FF 3	291	389	680	1.0	680	166,600	551,005	1,009,800	3,339,765	$4.00	$2,204,020
Pipe FF	CP FF 3	CP FF 4	229	451	680	1.0	680	166,600	717,605	1,009,800	4,349,565	$4.00	$2,870,420
Pipe FF	CP FF 4	CP FF 5	239	500	739	1.0	739	181,055	898,660	1,097,415	5,446,980	$4.00	$3,594,640
Pipe FF	CP FF 5	**CP FF 6**	**229**	**452**	**681**	**1.0**	**681**	**166,845**	**1,065,505**	1,011,285	6,458,265	$3.50	**$3,729,268**
Pipe FF	CP FF 6	CP FF 7	284	313	597	1.0	597	146,265	1,211,770	886,545	7,344,810	$3.50	$4,241,195
Pipe FF	CP FF 7	CP FF 8	233	295	528	1.0	528	129,360	1,341,130	784,080	8,128,890	$3.50	$4,693,955
Pipe FF	CP FF 8	CP FF 9	89	363	452	1.0	452	110,740	1,451,870	671,220	8,800,110	$3.50	$5,081,545
Pipe FF	CP FF 9	CP FF 10	86	250	336	1.0	336	82,320	1,534,190	498,960	9,299,070	$3.50	$5,369,665
Pipe FF	CP FF 10	**CP FF 11**	**171**	**82**	**253**	**1.0**	**253**	**61,985**	**1,596,175**	375,705	9,674,775	$3.50	**$5,586,613**
Total			2427	4088	6515		6515	1,596,175		9,674,775			

Design Parameters:

Residential Single Family Units (EDU) =	245	GPD	Average Dry Weather Flow =	245	GPD/EDU
Population per EDU =	3.5	capita/EDU	Maximum Dry Weather Flow =	735	GPD/EDU
Development Average Density =	1	EDU/acre	Maximum Wet Weather Flow =	1485	GPD/EDU
Wastewater Demand =	70	GPD/capita			
Maximum Flow Peak Factor =	3				
Inflow/Infiltration =	750	gallon/acres served			

Development Density 3 EDU/acre

Green Valley Special Utility District Drainage Area G Wastewater Treatment Plant Costs Study				G
1	2	3	4	5
Collection Point ID	Average Dry Weather Flow (GPD)	Treatment Plant Capacity (MGD)	Unit Costs (dollars/GPD)	Total Costs (dollars)
CP GG-1	266,805	0.3	$4.00	$1,067,220
CP GG-5	2,042,565	2.0	$3.50	$7,148,978
CP GG-9	5,520,585	5.5	$3.00	$16,561,755

Development Density 1 EDU/acre

Green Valley Special Utility District Drainage Area G Wastewater Treatment Plant Costs Study				G
1	2	3	4	5
Collection Point ID	Average Dry Weather Flow (GPD)	Treatment Plant Capacity (MGD)	Unit Costs (dollars/GPD)	Total Costs (dollars)
CP GG-1	88,935	0.1	$4.00	$355,740
CP GG-5	680,855	0.7	$4.00	$2,723,420
CP GG-9	1,840,195	1.8	$3.50	$6,440,683

Green Valley Special Utility District
Drainage Area G
Wastewater Treatment Plant Capacity and Costs Calculations

3 EDU G

Sewer Main Location			Contributing Area			Population		Average Dry Weather Flow		Maximum Wet Weather		Wastewater Treatment Plant Costs	
1	2	3	4	5	6	7	8	9	10	11	14	15	16
Pipe ID	Up Stream Collection Point	Down Stream Collection Point	Left Side Area (acres)	Right Side Area (acres)	Total Area (acres)	Development Density (3 EDU/acre)	Total EDU (EDU)	Dry Weather Flow (GPD)	Cumulative Dry Weather Flow (GPD)	Wet Weather Flow (GPD)	Cumulative Wet Weather Flow (GPD)	Unit Costs ($/GPD)	Total Costs ($)
Pipe GG	Upstream	CP GG-1	96	267	363	3.0	1089	266,805	266,805	1,072,665	1,072,665	$4.00	$1,067,220
Pipe GG	CP GG-1	CP GG-2	268	187	455	3.0	1365	334,425	601,230	1,344,525	2,417,190	$4.00	$2,404,920
Pipe GG	CP GG-2	CP GG-3	452	144	596	3.0	1788	438,060	1,039,290	1,761,180	4,178,370	$3.50	$3,637,515
Pipe GG	CP GG-3	CP GG-4	552	129	681	3.0	2043	500,535	1,539,825	2,012,355	6,190,725	$3.50	$5,389,388
Pipe GG	CP GG-4	CP GG-5	594	90	684	3.0	2052	502,740	2,042,565	2,021,220	8,211,945	$3.50	$7,148,978
Pipe GG	CP GG-5	CP GG-6	661	160	821	3.0	2463	603,435	2,646,000	2,426,055	10,638,000	$3.50	$9,261,000
Pipe GG	CP GG-6	CP GG-7	838	387	1225	3.0	3675	900,375	3,546,375	3,619,875	14,257,875	$3.50	$12,412,313
Pipe GG	CP GG-7	CP GG-8	600	563	1163	3.0	3489	854,805	4,401,180	3,436,665	17,694,540	$3.50	$15,404,130
Pipe GG	CP GG-8	CP GG-9	113	1410	1523	3.0	4569	1,119,405	5,520,585	4,500,465	22,195,005	$3.00	$16,561,755
	Total		4174	3337	7511		22533	5,520,585		22,195,005			

Design Parameters:

Residential Single Family Units (EDU) =	245	GPD	Average Dry Weather Flow =	245	GPD/EDU
Population per EDU =	3.5	capita/EDU	Maximum Dry Weather Flow =	735	GPD/EDU
Development Average Density =	3	EDU/acre	Maximum Wet Weather Flow =	985	GPD/EDU
Wastewater Demand =	70	GPD/capita			
Maximum Flow Peak Factor =	3				
Inflow/Infiltration =	750	gallon/acres served			

Green Valley Special Utility District
Drainage Area G
Wastewater Treatment Plant Capacity and Costs Calculations

1 EDU G

Sewer Main Location			Contributing Area			Population		Average Dry Weather Flow		Maximum Wet Weather		Wastewater Treatment Plant Costs	
1	2	3	4	5	6	7	8	9	10	11	14	15	16
Pipe ID	Up Stream Collection Point	Down Stream Collection Point	Left Side Area (acres)	Right Side Area (acres)	Total Area (acres)	Development Density (1 EDU/acre)	Total EDU (EDU)	Dry Weather Flow (GPD)	Cumulative Dry Weather Flow (GPD)	Wet Weather Flow (GPD)	Cumulative Wet Weather Flow (GPD)	Unit Costs ($/GPD)	Total Costs ($)
Pipe GG	Upstream	CP GG-1	96	267	363	1.0	363	88,935	88,935	539,055	539,055	$4.00	$355,740
Pipe GG	CP GG-1	CP GG-2	268	187	455	1.0	455	111,475	200,410	675,675	1,214,730	$4.00	$801,640
Pipe GG	CP GG-2	CP GG-3	452	144	596	1.0	596	146,020	346,430	885,060	2,099,790	$4.00	$1,385,720
Pipe GG	CP GG-3	CP GG-4	552	129	681	1.0	681	166,845	513,275	1,011,285	3,111,075	$4.00	$2,053,100
Pipe GG	CP GG-4	CP GG-5	594	90	684	1.0	684	167,580	680,855	1,015,740	4,126,815	$4.00	$2,723,420
Pipe GG	CP GG-5	CP GG-6	661	160	821	1.0	821	201,145	882,000	1,219,185	5,346,000	$4.00	$3,528,000
Pipe GG	CP GG-6	CP GG-7	838	387	1225	1.0	1225	300,125	1,182,125	1,819,125	7,165,125	$3.50	$4,137,438
Pipe GG	CP GG-7	CP GG-8	600	563	1163	1.0	1163	284,935	1,467,060	1,727,055	8,892,180	$3.50	$5,134,710
Pipe GG	CP GG-8	CP GG-9	113	1410	1523	1.0	1523	373,135	1,840,195	2,261,655	11,153,835	$3.50	$6,440,683
	Total		4174	3337	7511		7511	1,840,195		11,153,835			

Residential Single Family Units (EDU) =	245	GPD	Average Dry Weather Flow =	245	GPD/EDU
Population per EDU =	3.5	capita/EDU	Maximum Dry Weather Flow =	735	GPD/EDU
Development Average Density =	1	EDU/acre	Maximum Wet Weather Flow =	1485	GPD/EDU
Wastewater Demand =	70	GPD/capita			
Maximum Flow Peak Factor =	3				
Inflow/Infiltration =	750	gallon/acres served			

EXHIBIT

2

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November 12, 2015

Ms. Bridget Bohac (MC 105)
Chief Clerk
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78767-3087

MWD 97750

VIA HAND DELIVERY

Re: Green Valley Special Utility District
Application for TPDES Permit No. WQ0015360001

Dear Ms. Bohac:

The City of Cibolo ("***City***"), my client, hereby submits this letter to the Texas Commission on Environmental Quality ("***TCEQ***"), to supplement its letter of August 31, 2015, providing formal comments and requesting a public meeting and a contested case hearing regarding Green Valley Special Utility District's ("***GVSUD***") application ("***Application***") for a new Texas Pollutant Discharge Elimination System ("***TPDES***") permit, referenced above. The City's August 31, 2015 letter ("***First Protest***") is attached as Exhibit A.

I. PUBLIC COMMENTS

The City requests that the TCEQ deny the Application because GVSUD has not provided all of the information required in TCEQ Application Form – TCEQ-10053. In addition, the Application and Draft Permit fail to (1) demonstrate a need for the proposed wastewater treatment facility (the "***Facility***"), (2) meet regionalization requirements, and (3) satisfy water quality, antidegradation, and stream standard requirements. If the TCEQ rejects the City's request to deny the permit, then, in the alternative, the City requests that the discharge of treated wastewater from the Facility be limited to a daily average flow of 2.5 million gallons per day ("***mgd***") because the Application indicates that GVSUD does not anticipate needing 5.0 mgd of treatment capacity until the year 2045.

In its Application, GVSUD requests authorization from the TCEQ to discharge treated wastewater at a volume not to exceed a daily average flow of 5.0 mgd. The proposed Facility is to be located in Guadalupe County, and the wastewater will be discharged from the plant site to Santa Clara Creek, and from there, to Lower Cibolo Creek. Lower Cibolo Creek is Segment No.

1902 in the San Antonio River Basin. The designated uses for Segment 1902 are primary contact recreation 1 and high aquatic life uses. Segment 1902 is currently listed on the TCEQ's 303(d) inventory of impaired and threatened waters for bacteria.

The City reiterates its public comments from its First Protest and incorporates those comments into this letter. The City also provides the following additional information to support the comments set forth in its First Protest.

*A. **Application Deficiencies and Failure to Demonstrate Need***

1. The Application does not contain a map clearly identifying the proposed service area for the proposed Facility. The City noted in Section II.1 of its First Protest that the boundaries of the area to be served by the proposed treatment facility are unclear. Also, in Section II.2 of its First Protest, the City notes that if the City is part of GVSUD's proposed sewer service area, then GVSUD should have included the City in its responses for Domestic Technical Report 1.1, Section 1.C.1, and should have requested service from the City and Cibolo Creek Municipal Authority ("***CCMA***"). There is no evidence in the Application that GVSUD requested service from the City or CCMA, or that GVSUD provided a cost analysis of connecting to the City's or CCMA's system to prove that a regional option was not feasible. The idea that GVSUD intends to serve its entire sewer certificate of convenience and necessity ("***CCN***") service area with the proposed facility, and not just the Cities of Marion and Santa Clara, is supported by a letter from GVSUD's engineer to TCEQ Staff dated August 31, 2015, which argues that a 5.0 mgd plant is needed because "undeveloped properties between FM 78 to IH 10 including portions of the *City of Cibolo*[1], Marion, and Santa Clara will be the focus of future development....[GVSUD's] *certificated area*[2] encompasses 76,257.23 acres of land in various land uses...." *See*, Exhibit B. As noted in the City's First Protest, because the City intends to provide retail sewer service in the portions of the City's corporate limits that currently overlap with the service area of GVSUD's sewer CCN No. 20973, which is subject to partial CCN decertification under Texas Water Code § 13.255, then GVSUD has not provided the information required to show that a regional option is not available.

2. GVSUD's Application further lacks evidence that GVSUD needs a 5.0 mgd Facility. In Domestic Technical Report 1.0 of the Application, regarding proposed flows, GVSUD's own projection report, which again, refers to GVSUD's entire sewer CCN service area as opposed to just the Santa Clara watershed, admits that the need for a 2.5 mgd facility would not even occur until 2020, and the need for a 5.0 mgd facility would not occur until 2045. *See* Exhibit C. Here, the draft permit term expires in 2020, so it is unclear why a 5.0 mgd would be necessary and authorized at this time. Further, since the City provided notice to GVSUD on August 20, 2015 that it intends to decertify portions of GVSUD's sewer CCN No. 20973 service area that are within the corporate limits of the City, GVSUD will have even less of a need for a 5.0 mgd Facility to serve its reduced

[1] Emphasis added.
[2] Emphasis added.

sewer CCN area if the Application contemplates serving such area (which again, is unclear).

3. In Domestic Technical Report 1.0, Section 10 (page 12 of such report), the TCEQ requires the applicant to select the anticipated sludge disposal method and provide sludge disposal site information, including the disposal site name, permit or registration number, and disposal site's county. Section 10 also requires the applicant to indicate the method of transportation, hauler name, and hauler registration number. In response, GVSUD did not provide most of this information, instead stating that the information is to be determined and admitting that neither a sludge disposal site nor hauler has been selected. See Exhibit D. GVSUD also has not complied with the TCEQ's requirement to provide a copy of the contractual agreements demonstrating that the receiving facility will accept the sludge. *Id.* GVSUD's failure to identify a method for sludge disposal creates another deficiency in the Application and indicates that GVSUD's operation of the Facility will not comply with federal and state requirements.

B. Regionalization

Again, the TCEQ is obligated to adhere to its regionalization policy in considering discharge permit applications. *See* Texas Water Code ("***TWC***") § 26.003, 26.0282, and 26.081. Under 30 Texas Administrative Code ("***TAC***") § 351.62, CCMA is the designated provider of sewer service in the area that GVSUD intends to serve with the proposed Facility. As a purchaser of wholesale wastewater services from CCMA, and as a named city under 30 TAC § 351.62, the City is a part of the same CCMA regional system that is the wastewater service provider in the service area contemplated by the Application. The City has concerns that the construction of this Facility violates state law and the TCEQ's regionalization policy, as the City (through its contract with CCMA) and CCMA itself has the authority (and capacity) to provide wastewater service to this area. The City agrees with CCMA's letter to the Chief Clerk dated June 24, 2015, that CCMA is the governmental entity designated to provide wastewater treatment services in the region, and the City fully supports CCMA's arguments addressing 30 TAC § 351.62 and incorporates those arguments into this letter as well.

C. Antidegradation and Stream Standards

The Application and Draft Permit also raise concerns that the proposed discharge will not be in compliance with the TCEQ's antidegradation policy and will not maintain its current stream standard. Under 30 TAC § 307.5, the proposed discharge is subject to the antidegradation policy and implementation procedures under Tier 1 and Tier 2. Additionally, because Segment 1902 is an impaired water body on the TCEQ's 303(d) list for bacteria, the proposed discharge may unnecessarily downgrade the segment's water quality in violation of statutory and regulatory antidegradation requirements and stream standards. For these additional reasons, it is not in the public interest for the TCEQ to approve the Application.

Because of the reasons set forth in its First Protest and in this letter, the City recommends that the TCEQ deny the Application. Apart from the Application having numerous deficiencies

and the concern that the permit will not provide sufficient protection of water quality, it appears that GVSUD was inconsistent in its responses dealing with the proposed service area, which allowed it to benefit both from a limited service area for regionalization purposes (e.g., avoiding naming the Cities of Schertz and Cibolo as being within the intended service area for regionalization requirements), and an expansive area (i.e., its entire sewer CCN service area) to try to justify the need for a 5.0 mgd facility. If the TCEQ does not reject the Application, the TCEQ should limit the permit to 2.5 mgd, as GVSUD has not shown a need for a 5.0 mgd facility.

II. REQUESTS FOR PUBLIC MEETING AND CONTESTED CASE HEARING

Again, the City requests both a public meeting and a contested case hearing on this Application for the above reasons and the reasons stated in its First Protest. The City is an "affected person," negatively impacted by this Application in a manner that is under the jurisdiction of the TCEQ and that is unique from the general public for the reasons stated in its First Protest. It is also an affected person because the Application indicates that GVSUD is planning to serve its entire sewer CCN service area with the Facility, and GVSUD's sewer CCN service area overlaps with both the City's corporate limits and ETJ. *See* Exhibit 2 to the City's First Protest. The City has statutory authority over and an interest in the issues relevant to the Application because it has authority as a home rule municipality to operate a utility system inside or outside its corporate limits. Texas Local Government Code § 402.001(b). To this end, the City provides retail sewer service within its corporate limits and ETJ through its wholesale wastewater service contract with CCMA. Additionally, as noted in the public comment section, above, the City has provided notice to GVSUD under TWC § 13.255 that it intends to decertify portions of GVSUD's sewer CCN that are within the corporate limits of the City.

The City protests the Application, which contemplates the construction of the Facilities because it will violate state law and the TCEQ's regionalization policy, as the City (through its contract with CCMA), or CCMA itself, has the authority (and capacity) to provide wastewater service to the proposed service area for the Facility. Additionally, the City protests the Application because, as noted in Section 1, above, GVSUD did not provide evidence that it requested service from the City and/or CCMA or evidence of a cost analysis to connect to the regional wastewater system, as required by the TCEQ in a TPDES Application. The City also protests the Application for failing to provide required information regarding the proposed service area for the Facility, as well as failing to identify the need for the 5.0 mgd Facility.

The City reserves its right to supplement these public comments and this request for a contested case hearing as it learns more about the Application - information that may become apparent with conducting a public meeting for the Application. The City appreciates your consideration of these public comments and requests for a public meeting and contested case hearing.

If you have any questions regarding this matter, please contact me at (512) 322-5818.

Sincerely,

David Klein

cc: Office of Public Assistance
Firoj Vahora, TCEQ
Mr. Robert T. Herrera, City Manager, City of Cibolo
Mr. Pat Allen, General Manager, GVSUD

EXHIBIT A

FIRST PROTEST LETTER

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August 31, 2015

Ms. Bridget Bohac (MC 105)
Chief Clerk
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78767-3087

Re: Green Valley Special Utility District
Application for TPDES Permit No. WQ0015360001

Dear Ms. Bohac:

The City of Cibolo ("***City***"), my client, hereby submits this letter to the Texas Commission on Environmental Quality ("***TCEQ***"), providing its formal comments and requesting a public meeting and a contested case hearing regarding Green Valley Special Utility District's ("***GVSUD***") application ("***Application***") for a new Texas Pollutant Discharge Elimination System ("***TPDES***") permit, referenced above.

Again, I represent the City regarding the Application, and I request that the TCEQ send all correspondence regarding this matter to me at:

Lloyd Gosselink Rochelle & Townsend, P.C.
Attn: David Klein
816 Congress Avenue, Suite 1900
Austin, Texas 78701
dklein@lglawfirm.com
512-322-5818 (phone)
512-472-0532 (fax)

I. PUBLIC COMMENTS

The City requests that the TCEQ halt processing the Application because GVSUD has not provided all of the information required in TCEQ Application Form – TCEQ-10053. In its Application, GVSUD requests authorization from the TCEQ to discharge treated wastewater at a volume not to exceed a daily average flow of 5,000,000 gallons per day. The proposed wastewater treatment facility is to be located in Guadalupe County, and the wastewater will be discharged from the plant site to Santa Clara Creek, and from there, to Lower Cibolo Creek.

Lower Cibolo Creek is Segment No. 1902 in the San Antonio River Basin. The designated uses for Segment 1902 are primary contact recreation 1 and high aquatic life uses. Segment 1902 is currently listed on the TCEQ's 303(d) inventory of impaired and threatened waters for bacteria.

After a careful review of the Application, the City believes that the Application has substantive deficiencies, which are more specifically described below:

1. In Domestic Technical Report 1.0, Section 4 (page 3 of such report), TCEQ requires the applicant to provide a map showing the "boundaries of the area served by the treatment facility." However, it is uncertain whether GVSUD has provided such map. If the map provided by GVSUD in the Application to address this requirement is the map entitled "GVSUD Wastewater System Regional Planning Santa Clara Creek Watershed," ("*Vicinity Map*") attached hereto as Exhibit 1, then it is unclear what are GVSUD's service area boundaries; otherwise, no service area map has been provided. The Vicinity Map depicts the sewer certificate of convenience and necessity ("*CCN*") service area boundaries, corporate limits, and extraterritorial jurisdiction boundaries ("*ETJ*") of numerous entities and the boundaries of the Santa Clara watershed, but many of these areas appear to overlap. The Vicinity Map does not indicate whether GVSUD's entire sewer CCN service area is also the service area of the proposed facility. Again, *see* Exhibit 1.

2. In Domestic Technical Report 1.1, Section 1.C.1 (page 21 of such report), GVSUD indicates that the proposed service area is only within the corporate limits of the Cities of Santa Clara and Marion. However, as noted in the prior comment, the proposed service area for GVSUD's proposed wastewater treatment plant is not clear. If the proposed service area is GVSUD's sewer CCN boundaries, those CCN boundaries overlap with land within the City's corporate limits, as shown on the map attached as Exhibit 2. If the proposed service area is all of Santa Clara Creek within GVSUD's sewer CCN area, it appears from the Vicinity Map that Cibolo is included, though the map is not clear. If the City is within the proposed service area for this wastewater treatment plant, then GVSUD should have included the City in GVSUD's responses to these questions and should have requested service from Cibolo Creek Municipal Authority ("*CCMA*"), the City's wholesale wastewater service provider, in order to meet the Commission's regionalization requirements. In addition, on August 20, 2015, the City also provided notice to GVSUD under Texas Water Code ("*TWC*") §13.255 that the City intends to provide retail sewer service in those portions of the City's corporate limits that overlap with the service area of GVSUD's sewer CCN No. 20973. *See* Exhibit 2. As a result, GVSUD will have even less need for a wastewater facility to serve its sewer CCN service area.

The City also has concerns about the proposed facility because areas annexed by the City as well as areas within the City's ETJ and areas subject to annexation agreements with the City are within extremely close proximity to the proposed facility location. GVSUD has no history of operating a wastewater facility, and the City's residents and residents within the City's ETJ can

expect to be affected by nuisance odors from a facility of the size proposed by GVSUD. Any sewage spills can be expected to create hazards to the health and welfare of residents in the area, including residents of the City and the City's ETJ.

The Commission is obligated to adhere to its regionalization policy in considering discharge permit applications. *See* TWC § 26.003, 26.0282, and 26.081. Under 30 Texas Administrative Code ("*TAC*") § 351.62, CCMA is the designated provider of sewer service in the area. As a purchaser of wholesale wastewater services from CCMA, and a named city under 30 TAC § 351.62, the City is a part of the same CCMA regional system that should remain the wastewater service provider in the area. The City has concerns that the construction of this wastewater treatment facility violates state law and the Commission's regionalization policy, as CCMA or other existing wastewater treatment facilities may have the capacity to provide wastewater service to this area. The City agrees with CCMA's letter to the Chief Clerk dated June 24, 2015, that CCMA is the governmental entity designated to provide wastewater treatment services in the region, and the City fully supports CCMA's arguments addressing 30 TAC § 351.62 and incorporates those arguments into this letter.

For the above reasons, the City recommends that the Commission discontinue processing the Application.

II. REQUEST FOR PUBLIC MEETING

The City requests a public meeting regarding the Application in light of the issues raised in Sections I and III of this letter. Title 30 TAC § 55.154(c) provides that "[a]t any time, the executive director or Office of Public Assistance may hold public meetings," and that "[t]he executive director or Office of Public Assistance shall hold a public meeting if: (1) the executive director determines that there is a substantial or significant degree of public interest in an application..." Under 30 TAC § 55.150, this opportunity to request a public meeting under 30 TAC § 55.154(c) applies to applications for a new TPDES permit, such as the Application. Accordingly, the City, as a retail wastewater services provider and customer of CCMA, and for the benefit of its citizens, has a substantial and significant degree of public interest in the Application. The City is willing to work with the TCEQ and GVSUD to determine a location for such public meeting.

III. REQUEST FOR A CONTESTED CASE HEARING

The City hereby requests a contested case hearing regarding the Application, as the City is negatively impacted by this Application in a manner that is under the jurisdiction of the TCEQ and that is unique from the general public. Specifically, GVSUD's application fails to adhere to the applicable laws of TWC, Chapter 26, and TCEQ regulations regarding regionalization, and the City is a customer of the current regional provider, CCMA.

CCMA is the TCEQ-designated regional wastewater services provider "in that area of Cibolo Creek Watershed, in the vicinity of the cities of Cibolo, Schertz, Universal City, Selma, Bracken, and Randolph Air Force Base." 30 TAC § 351.62. Further, the TCEQ's regulations provide that "all future permits and amendments to existing permits pertaining to discharges of domestic wastewater effluent within the Cibolo Creek regional area shall be issued only to the Authority." 30 TAC § 351.65. The City is a wholesale wastewater service customer of CCMA under a certain "Contract for Sewerage Service," dated February 14, 1985, in part placing obligations on the City to pay for its pro-rata share of CCMA's facilities and enabling the City to provide retail wastewater services to its customers. As noted in Section I of this letter, GVSUD's proposed service area for this Application includes portions of the City's corporate limits and/or ETJ, and the City opposes the Application because CCMA is the regional provider of wholesale wastewater services to this area.

In addition to the TCEQ's own regulations, the TWC recognizes the importance of regionalization as a method to improve and protect water quality. *See* Tex. Water Code § 26.081(a),(c) (West 1985) ("The legislature finds and declares that it is necessary to the health, safety, and welfare of the people of this state to implement the state policy to encourage and promote the development and use of regional and area-wide waste collection, treatment, and disposal systems . . . ."). Accordingly, the TCEQ is obligated to adhere to its regionalization policy in considering discharge permit applications. *See* Tex. Water Code § 26.003, 26.0282, and 26.081. Therefore, the City opposes the construction of GVSUD's proposed wastewater treatment plant because it will violate state law and the Commission's regionalization policy, as CCMA may have the capacity to provide wastewater service to this area.

The City reserves its right to supplement these public comments and this request for a contested case hearing as it learns more about the Application- information that may become apparent with conducting a public meeting for the Application. The City appreciates your consideration of these public comments and requests for a public meeting and contested case hearing.

If you have any questions regarding this matter, please contact me at (512) 322-5818.

Sincerely,

David Klein

cc: Office of Public Assistance
Firoj Vahora, TCEQ
Mr. Robert T. Herrera, City Manager, City of Cibolo
Mr. Pat Allen, General Manager, GVSUD

4975247.2

EXHIBIT 1

VICINITY MAP

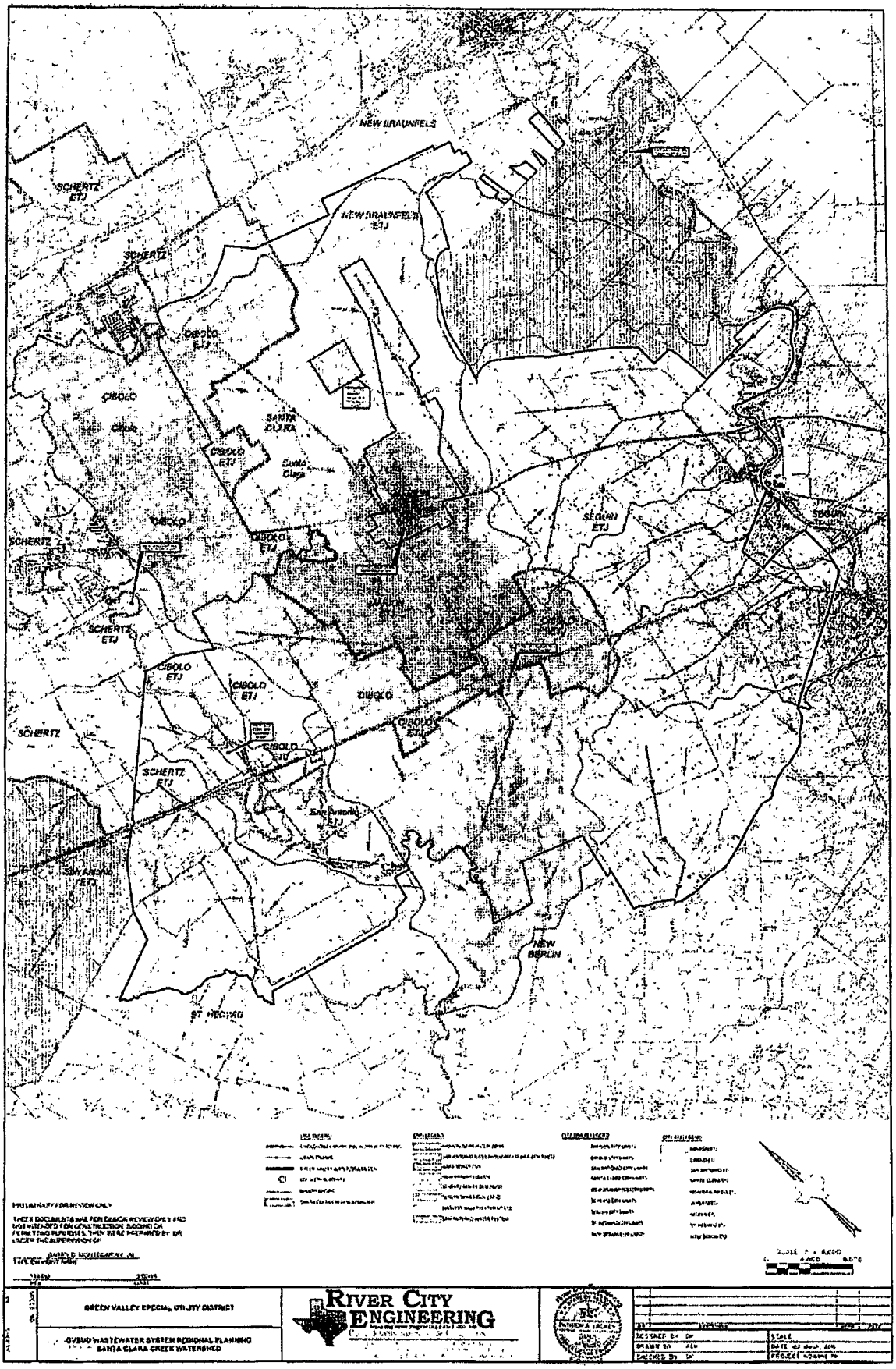

NEW BRAUNFELS
SCHERTZ ETJ
NEW BRAUNFELS ETJ
SCHERTZ
CIBOLO
CIBOLO ETJ
SANTA CLARA
Santa Clara
SEGUIN
SEGUIN ETJ
SCHERTZ ETJ
CIBOLO ETJ
SAN ANTONIO ETJ
NEW BERLIN
ST. HEDWIG
GREEN VALLEY SPECIAL UTILITY DISTRICT
GVSUD WASTEWATER SYSTEM REGIONAL PLANNING
SANTA CLARA CREEK WATERSHED
RIVER CITY ENGINEERING

EXHIBIT 2

NOTICE OF INTENT TO SERVE/ SERVICE AREA MAP

From the Office of Robert T. Herrera, City Manager
City of Cibolo 200 S. Main / PO BOX 826 Cibolo, Texas 78108 (210) 658-9900 www.cibolotx.gov

COPY

August 18, 2015

Green Valley Special Utility District
Attn: Pat Allen, General Manager
529 South Center Street
Marion, TX 78124

VIA HAND DELIVERY & USPS REGULAR MAIL

Re: Notice of Intent by the City of Cibolo to Provide Sewer Service in Corporate Limits

Dear Mr. Allen:

The City of Cibolo ("*City*") currently provides retail sewer service to customers located within certain portions of the City's corporate limits and extra-territorial jurisdiction ("*ETJ*"). However, other portions of the City's corporate limits overlap with Green Valley Special Utility District's ("*Green Valley SUD*") sewer certificate of convenience and necessity ("*CCN*") No. 20973.

In accordance with Texas Water Code § 13.255, the City hereby provides Green Valley SUD with notice that the City intends to provide retail sewer service to the areas within its corporate limits that overlap with Green Valley SUD's sewer CCN service area ("*Transition Areas*"), which are more specifically depicted in light blue on the attached map, attached hereto as Attachment A. The yellow areas on Attachment A are additional tracts that are currently subject to annexation agreements with the City, and the City anticipates annexing these tracts in the near future. For your convenience, attached hereto as Attachment B, are field notes for the entire light blue and yellow shaded areas, which are bounded on the south by U.S. Interstate Highway 10; on the west by Cibolo Creek, on the north by Lower Seguin Road, Haeckerville Road, and Arizpe Road; and on the east by the Court Decreed ETJ Boundary of the City and the City of Marion, as well as the boundaries of GCAD Parcel Nos. 70979 and 71064.

We look forward to discussing the terms of an agreement between the City and Green Valley SUD, which will detail the arrangement between the parties for the City's provision of retail sewer service to these Transition Areas. If you have any questions, please contact me at (210) 658-9900.

Sincerely,

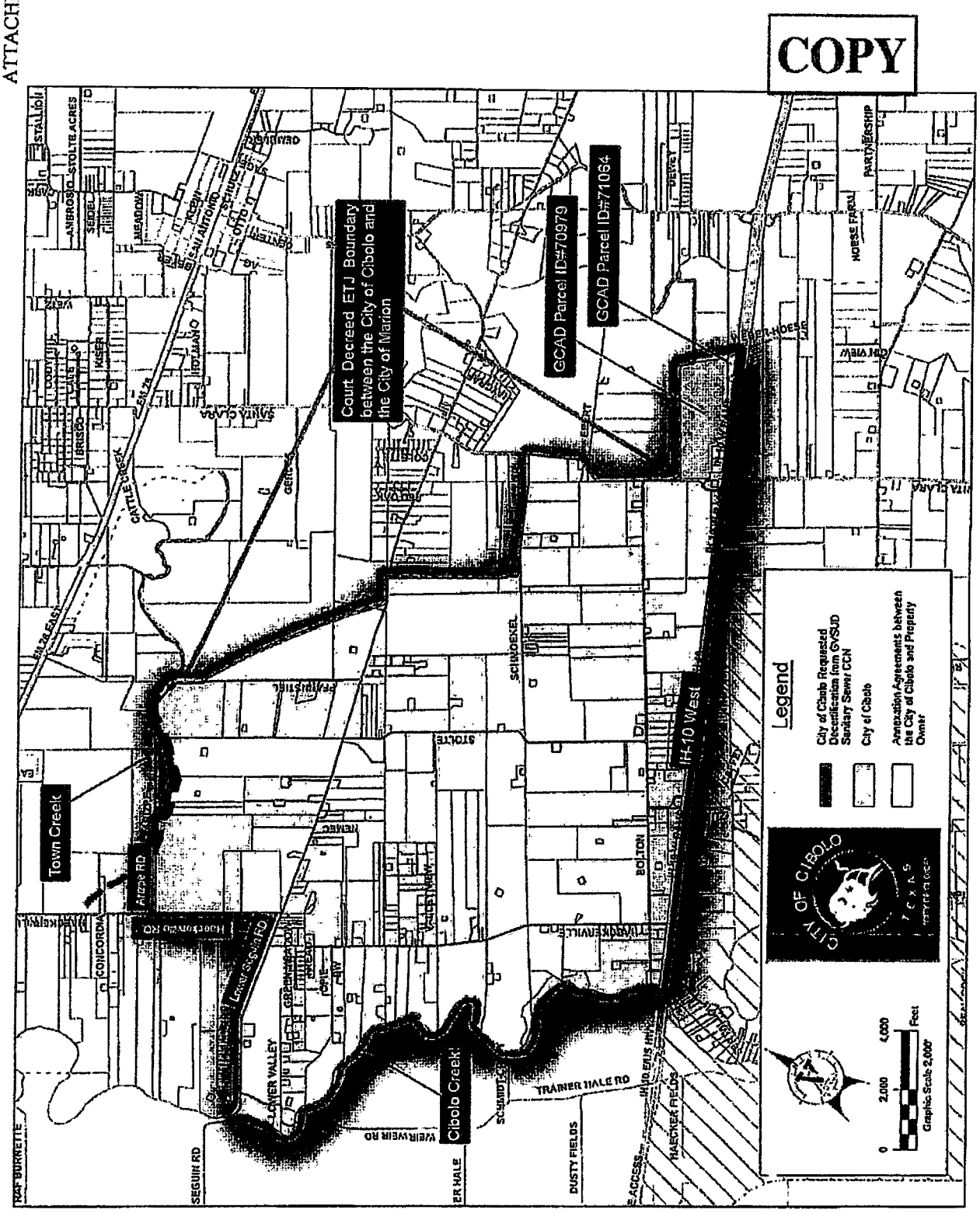
Robert T. Herrera

Robert T. Herrera
City Manager

CC: Mayor Jackson | City Council | Peggy Cimics, City Secretary | Rudy Klein, Director of Planning & Engineering

Enclosure(s)

ATTACHMENT A



ATTACHMENT B

COPY

Field Notes for a 5,882 Acre area of land to be Certified into the City of Cibolo's Certificate of Convenience and Necessity (CCN) area; said 5,882 Acres of land is in the existing City Limits or ETJ of the City of Cibolo, Guadalupe County, Texas.

Beginning at the intersection of Haekerville Road and Arizpe Road, said intersection being 7,515 feet south of the intersection of Haekerville Road and Farm to Market Road 78, said pint of beginning also being in the Extra Territorial Jurisdictional (ETJ) area for the City of Cibolo, Guadalupe County, Texas.

Thence in and easterly direction with Arizpe Road, approximately 2,304 feet to the intersection and crossing of Town Creek, an intermittent tributary to the Cibolo Creek;

Thence in an easterly direction with the meanders of Town Creek, approximately 6,860 feet to the intersection of Pfannstiel Lane and the Court Decreed ETJ Boundary between the City of Cibolo and the City of Marion;

Thence in a southerly direction with the Court Decreed ETJ Boundary between the City of Cibolo and the City of Marion, approximately 25,565 feet to the northeast corner of a 124.75 acre tract of land identified by the Guadalupe County Appraisal District as Parcel # 70979;

Thence in a southerly direction with the east line of said 124.75 acre tract, approximately 1,630 feet to the southeast corner of said tract, also being the north east corner of a 7.658 acres tract of land identified by the Guadalupe County Appraisal District as Parcel # 71064;

Thence in a southerly direction with the east line of said 7.658 acre tract, approximately 330 feet to the southeast corner of said tract, also being on the north right-of-way line of Interstate Highway 10;

Thence in a southwesterly direction with the north right-of-way line of Interstate Highway 10, approximately 20,900 feet to the intersection and crossing of the Cibolo Creek, the centerline of said Cibolo Creek also being the western limit of the ETJ of the City of Cibolo;

Thence in a northerly direction with the meanders of Cibolo Creek, approximately 21,350 feet to the intersection and crossing of Lower Seguin Road;

Thence in an easterly direction with Lower Seguin Road, approximately 7,005 feet to the intersection with Haekerville Road;

Thence in a northerly direction with Haekerville Road, approximately 4,003 feet to the point of beginning and containing 5,882 acres more or less.

EXHIBIT B

LETTER FROM GVSUD'S ENGINEER

RIVER CITY ENGINEERING
CIVIL, ENVIRONMENTAL & CONSULTING
Texas Registered Engineering Firm F-1546

August 31, 2015

Larry Diamond
Permit Coordinator
Municipal Permits Team
Wastewater Permitting Section (MC 148)
Water Quality Division
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
P.O. Box 13087
Austin, Texas 78711-3087

Re: Draft Permit for Proposed Green Valley Special Utility District Wastewater Permit No. WQ0015360001 (CN600684294) (RN108208646)

Dear Mr. Diamond:

This letter is in response to the draft permit dated August 20, 2015 and includes our comments for further consideration.

Comment 1:

Note 5 of the Cover Letter: The Standards Implementation Team recommends the inclusion of a total phosphorus limit of 0.5 mg/L for all phases of the proposed facility. This should help to insure that no significant degradation of water quality will occur.

The plant location is within rural Guadalupe County and is surrounded by properties used primarily for agricultural production and farming. The black land soils of the coastal plain region of Texas does not warrant a 0.5 mg/L total phosphorus limit. We believe a limit of 1.0 mg/L is more appropriate for this permit being that the outfall is within the Santa Clara Creek watershed and not directly to the Cibolo Creek. The plant discharge is over two (2) miles from the confluence of the Cibolo Creek. Other permits in this area including the City of Marion, La Vernia, San Antonio River Authority and the Cibolo Creek Municipal Authority permits do not include the more stringent 0.5 mg/L limit.

Comment 2:

Note 6 of the Cover Letter: The applicant asked for a Final phase of 5.0 million gallons per day (MGD). However because of the proposed date this phase will first be needed it has not been included in the draft permit.

The projected flows provided in the application were based on historic water connection growth. Since the application was submitted Green Valley SUD has received increased interest in centralized sewer for future developments. The District will need sufficient permitted capacity in order to contract for wastewater service on a tract by tract basis. For instance, the District is in discussion with three developers with tracts ranging from 40 acres up to 850 acres in size, with a total acreage requesting service of 1050 acres at this time. In order to contract for service to the entire development the district would need to insure capacity up to approximately 4200 equivalent dwelling units, 1,029,000 gpd or 41% of the 2.5 mgd phase is available. This calculation was completed using the following logic:

*1050 acres * 4 EDU/Acre = 4,200 EDU*
*4,200 EDU * 245 gpd/EDU = 1,029,000 gpd*
1,029,000 gpd / 2,500,000 gpd Phase = 41.16% capacity contracted

We request that the 5.0 mgd phase be included in the permit so that Green Valley's Board of Directors and Management can confidently enter agreements with developers and landowners for all phases of development within their service area. Multiple large acreage tracts are in the predevelopment process currently. Although the received flow may be several years in the future the District requires assurance that the 5.0 mgd phase can be obtained for orderly growth of their Certificate of Convenience and Necessity No. 20973 on a tract by tract basis. The received flows from these developments will be based on the real estate market and absorption of lots by builders and Green Valley will not have any control over the rate of construction and future phases of development. The undeveloped properties between FM 78 to IH 10 including portions of the City of Cibolo, Marion and Santa Clara will be the focus of future development in this area. Green Valley SUD's certificated area encompasses 76,257.23 acres of land in various land uses ranging from agricultural production to light industrial uses. I have attached a future land use map for your review.

If you have any questions or need additional information, please do not hesitate to contact our office.

Sincerely,

Patrick A. Lackey, P.E.
Principal – River City Engineering, PLLC

Cc: Pat Allen, General Manager GVSUD

Attachment: Future Land Use Map