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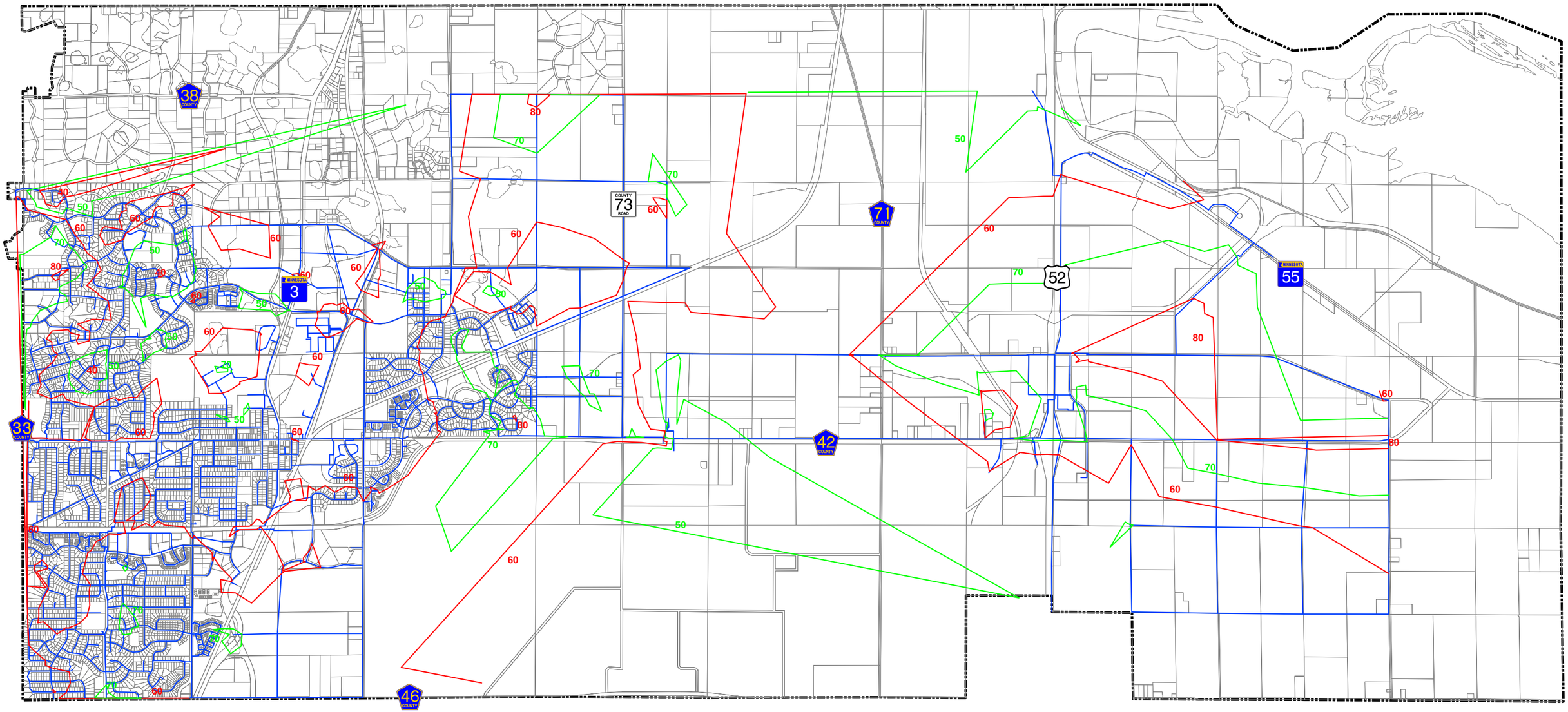

Comprehensive Water System Plan

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& Associates, Inc.

ROSEMOUNT
MINNESOTA

2010 System Peak Hour Pressure Figure 14

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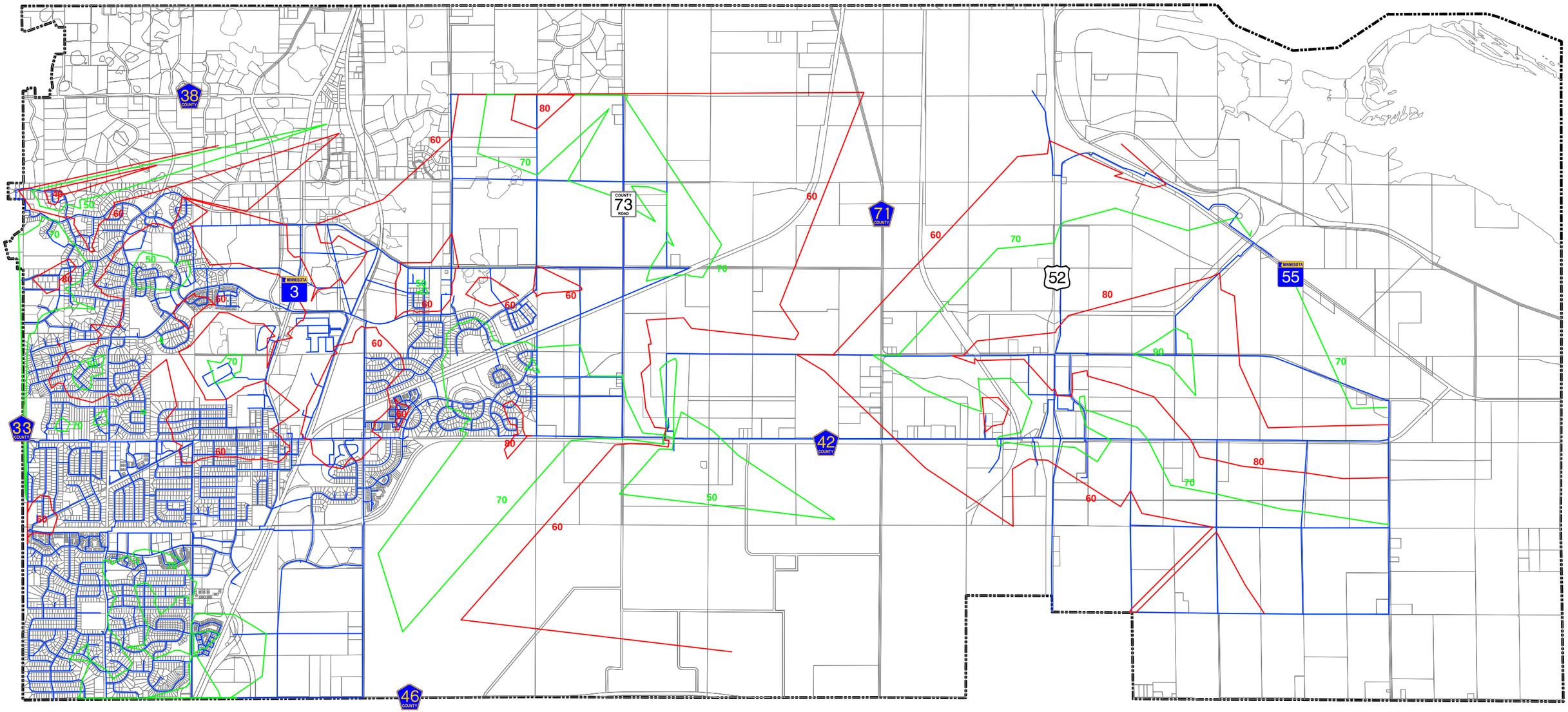

Comprehensive Water System Plan

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& Associates, Inc.

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2010 System Minimum Hour Pressure Figure 15

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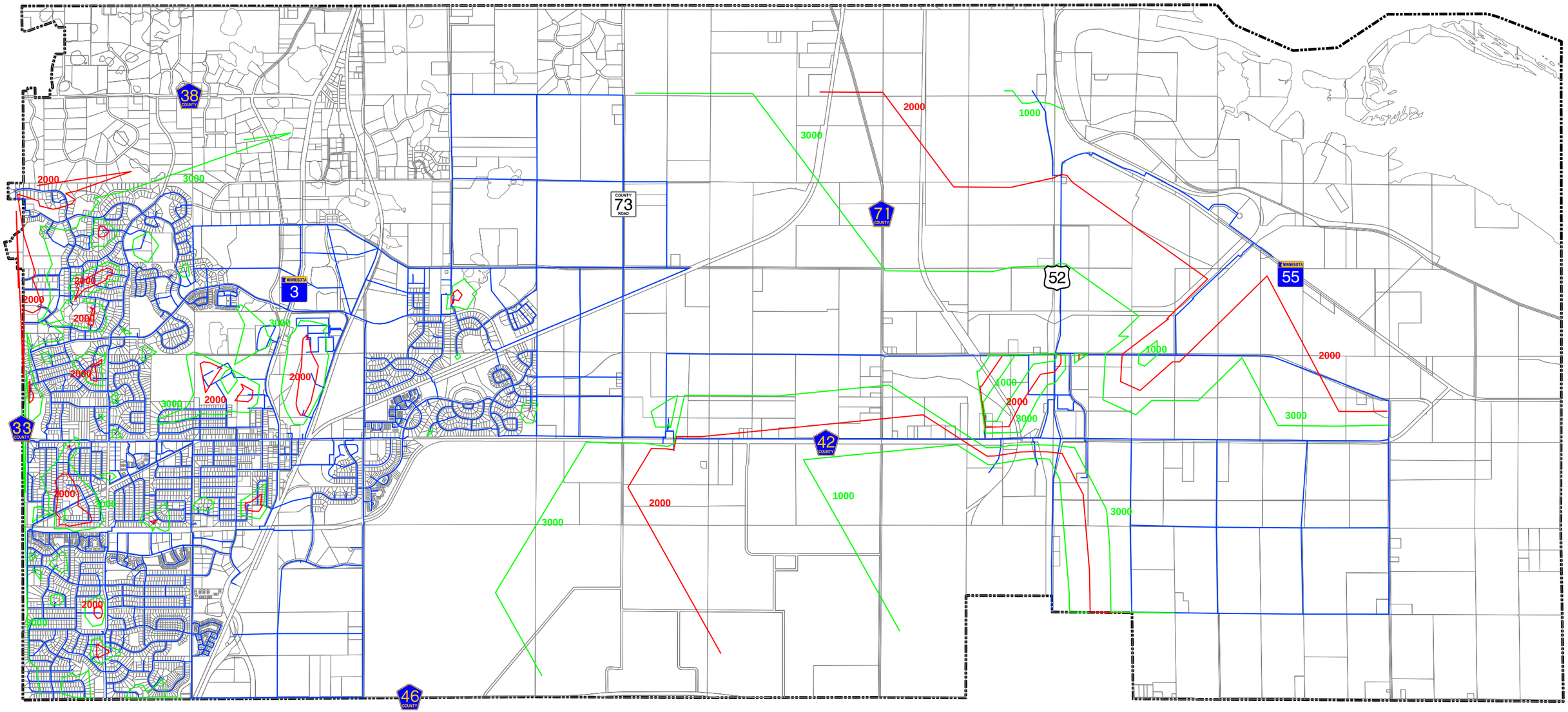

Comprehensive Water System Plan

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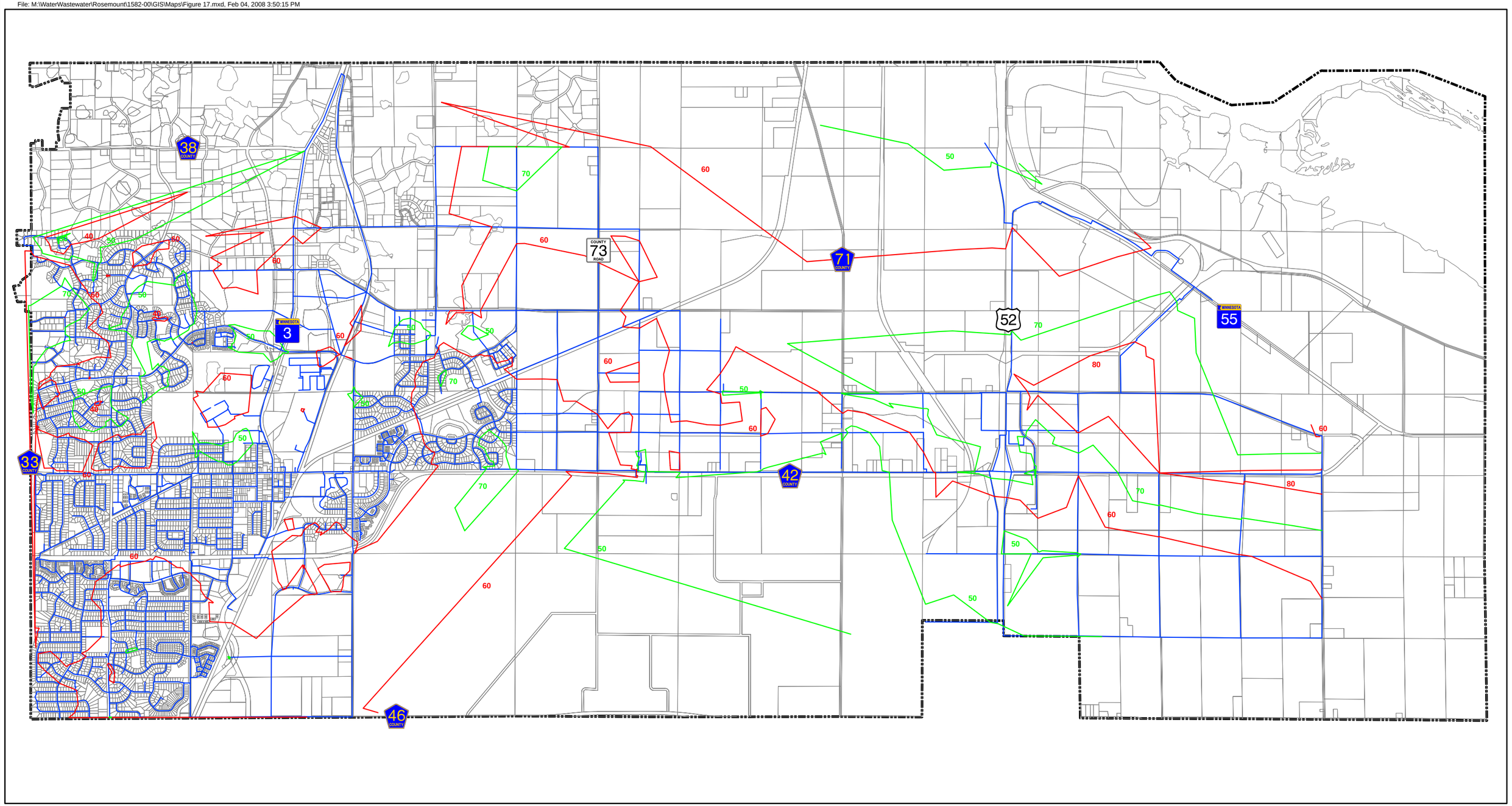
2010 System Available Fire Flow Figure 16

File: M:\WaterWastewater\Rosemount\1582-00\GIS\Maps\Figure 17.mxd, Feb 04, 2008 3:50:15 PM



Comprehensive Water System Plan

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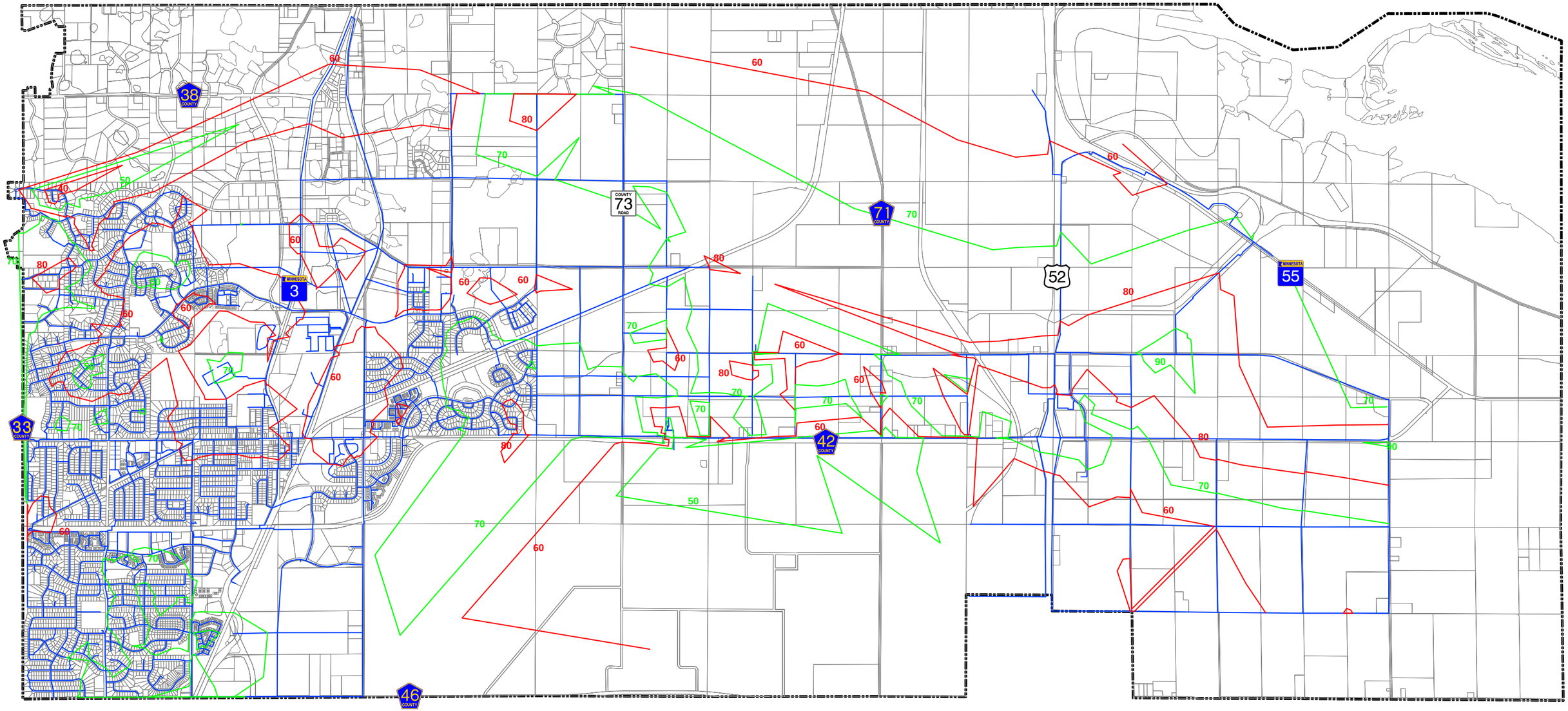
2015 System Peak Hour Pressure Figure 17

File: M:\WaterWastewater\Rosemount\1582-00\GIS\Maps\Figure 18.mxd, Feb 04, 2008 4:15:43 PM



Comprehensive Water System Plan

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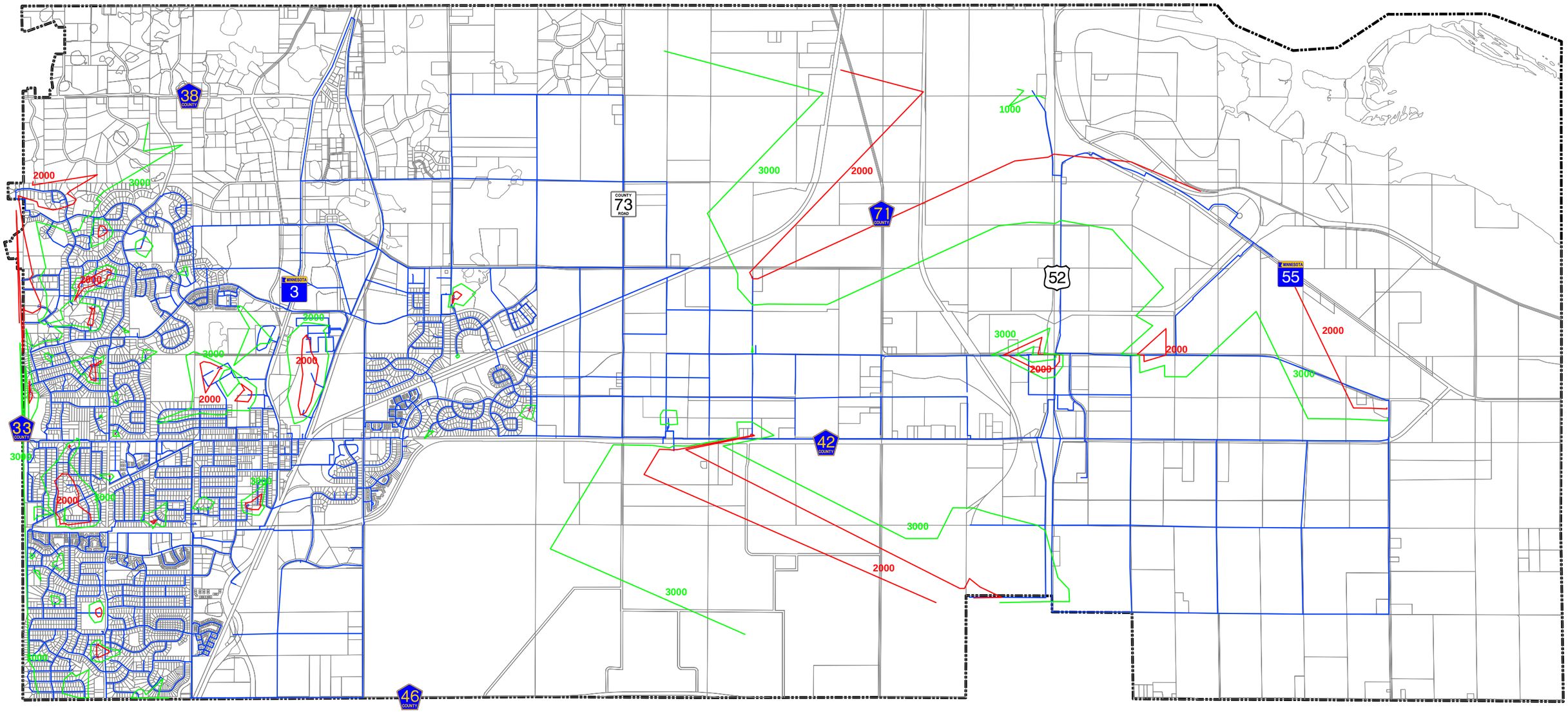
2015 System Minimum Hour Pressure Figure 18

File: M:\WaterWastewater\Rosemount\1582-00\GIS\Maps\Figure 19.mxd, Feb 04, 2008 4:16:36 PM



Comprehensive Water System Plan

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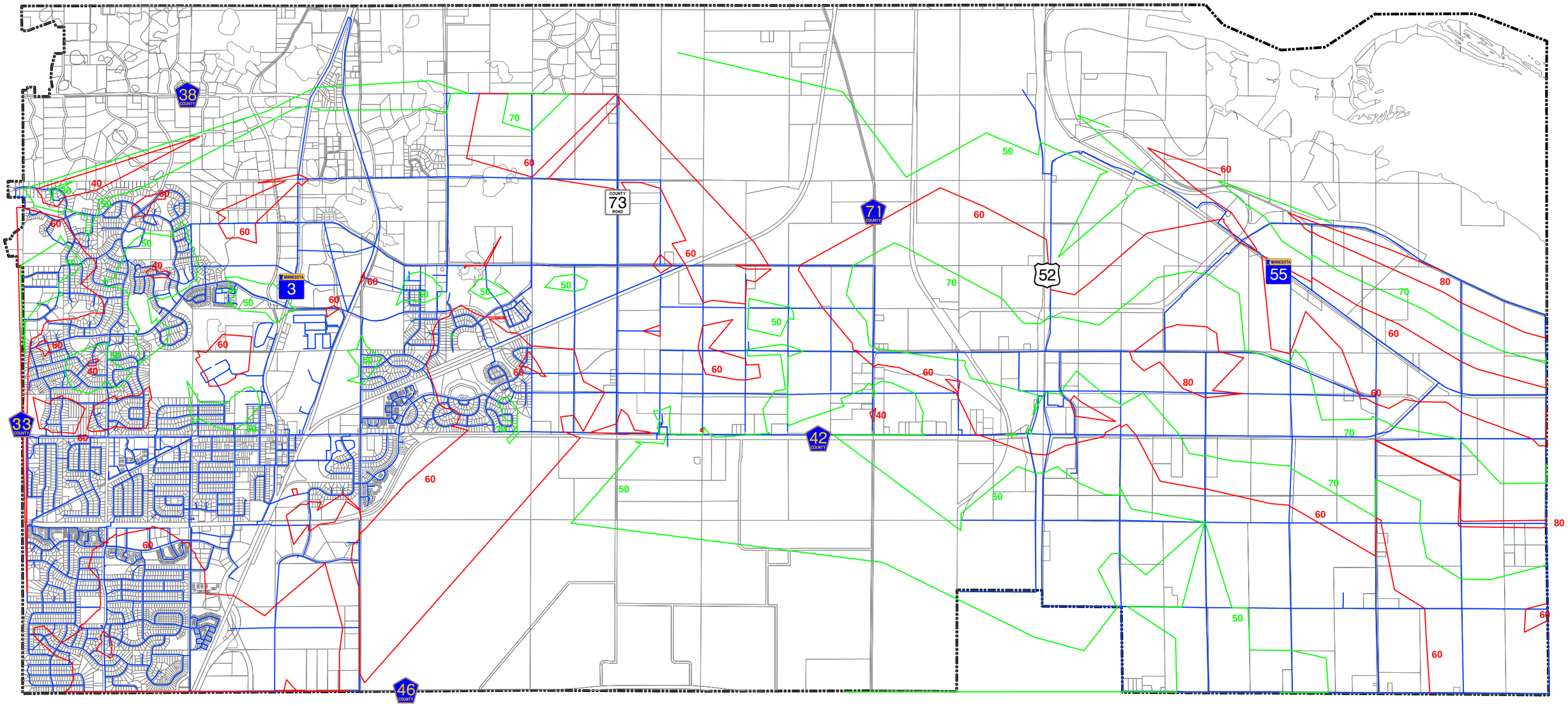
2015 System Available Fire Flow Figure 19

File: M:\WaterWastewater\Rosemount\1582-00\GIS\Maps\Figure 20.mxd, Feb 04, 2008 4:21:28 PM



Comprehensive Water System Plan

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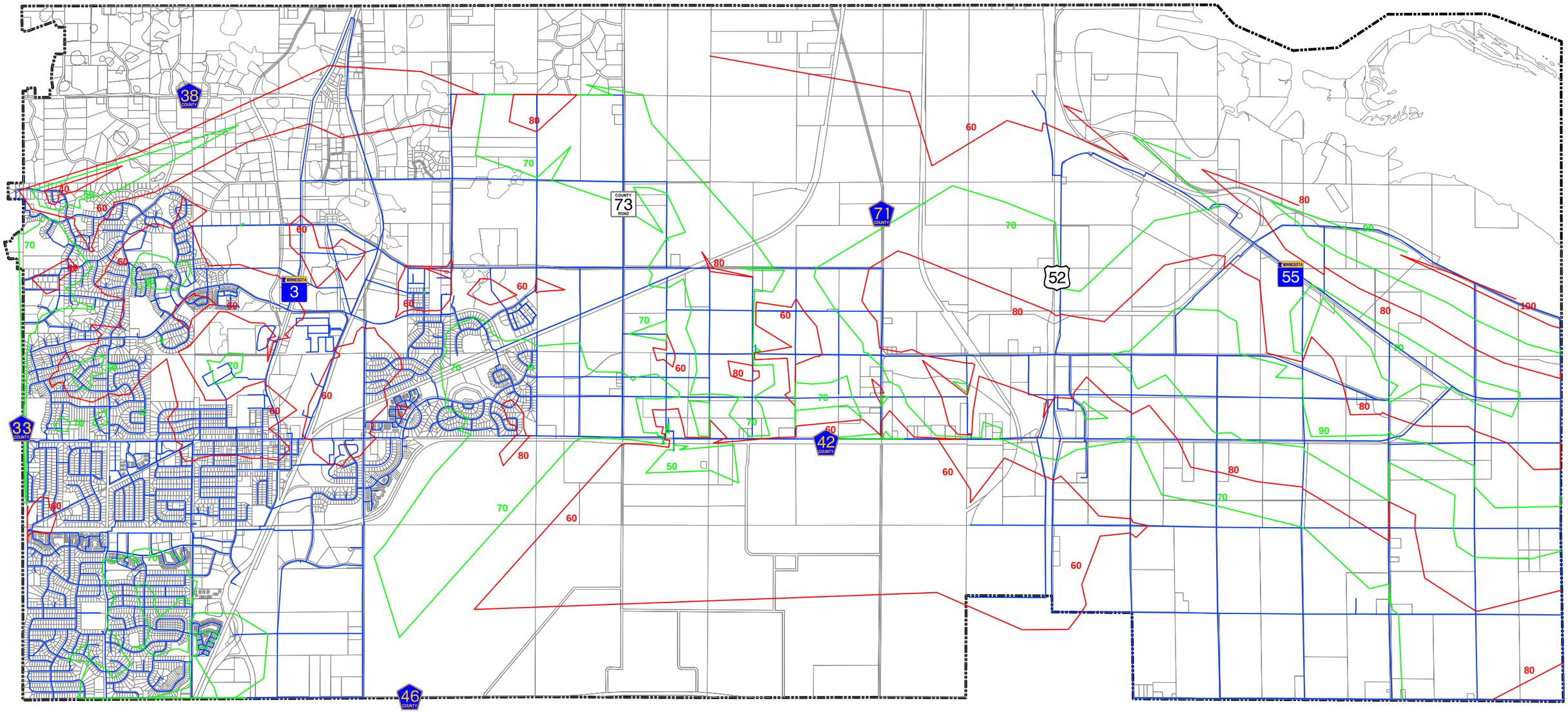
WSB & Associates, Inc.

ROSEMOUNT MINNESOTA

2025 System Peak Hour Pressure Figure 20

File: M:\WaterWastewater\Rosemount\1582-00\GIS\Maps\Figure 21.mxd, Feb 04, 2008 4:22:27 PM



Comprehensive Water System Plan

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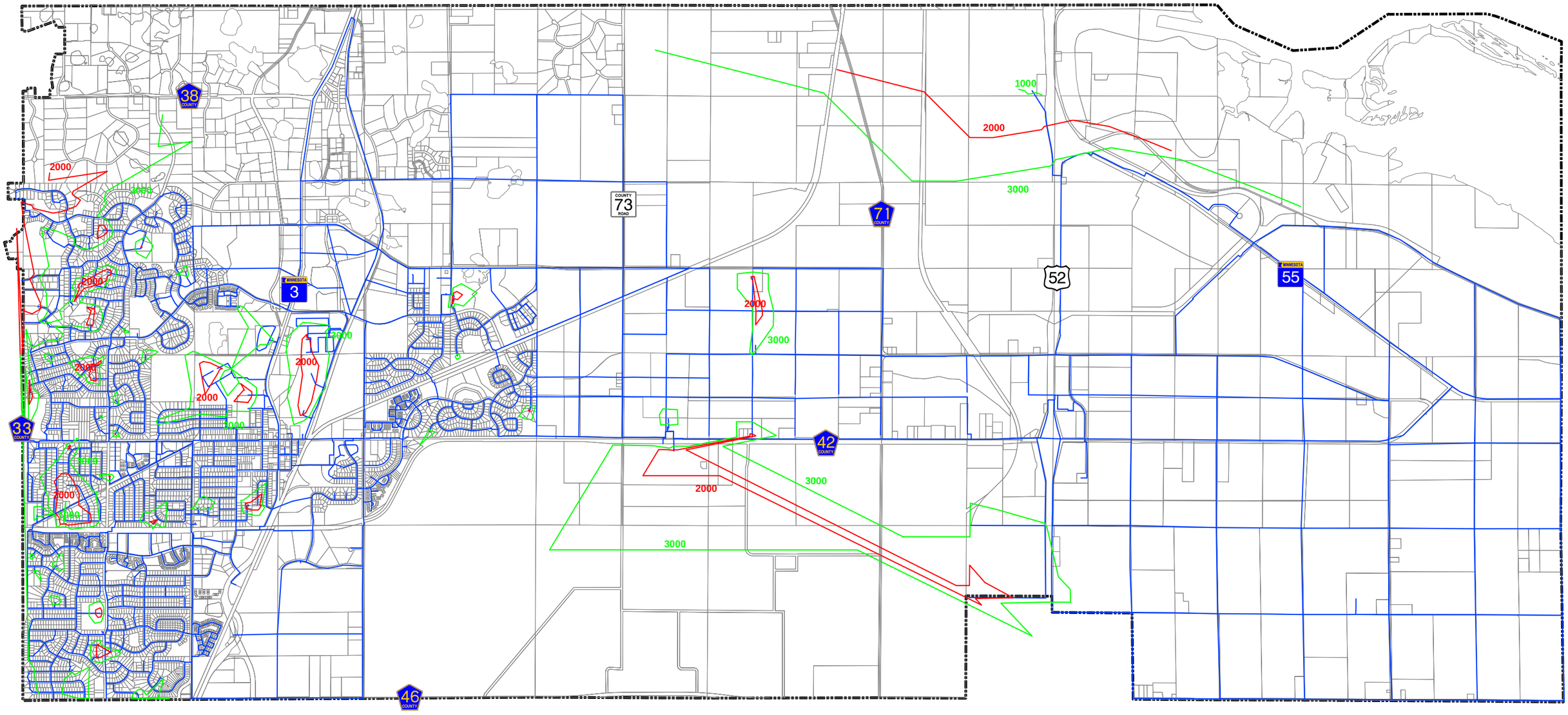
2025 System Minimum Hour Pressure Figure 21

File: M:\WaterWastewater\Rosemount\1582-00\GIS\Maps\Figure 22.mxd, Feb 04, 2008 4:23:29 PM



Comprehensive Water System Plan

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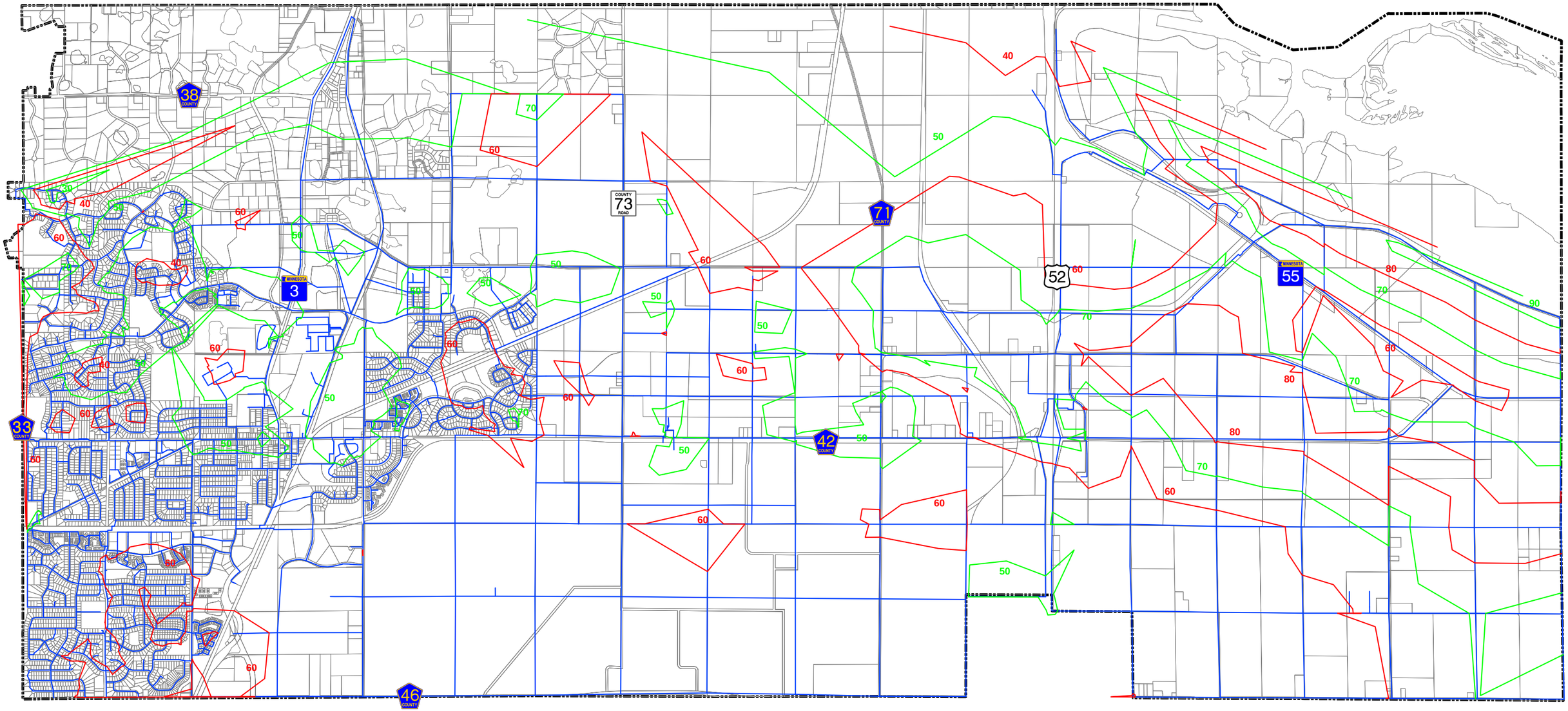
WSB & Associates, Inc.

ROSEMOUNT MINNESOTA

2025 System Available Fire Flow Figure 22

File: M:\WaterWastewater\Rosemount\1582-00\GIS\Maps\Figure 23.mxd, Feb 04, 2008 4:26:19 PM



Comprehensive Water System Plan

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& Associates, Inc.

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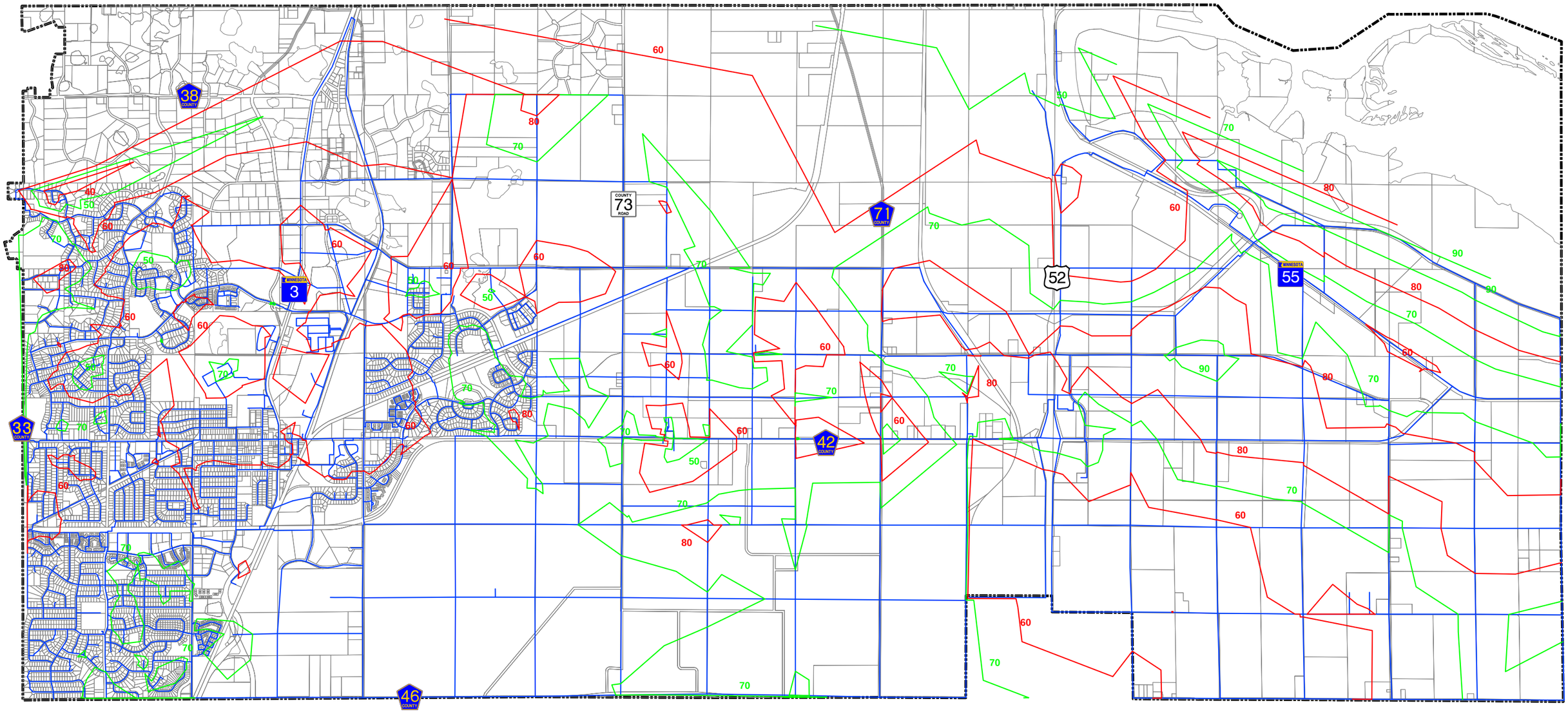
Ultimate System Peak Hour Pressure Figure 23

File: M:\WaterWastewater\Rosemount\1582-00\GIS\Maps\Figure 24.mxd, Feb 04, 2008 4:28:00 PM



Comprehensive Water System Plan

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& Associates, Inc.

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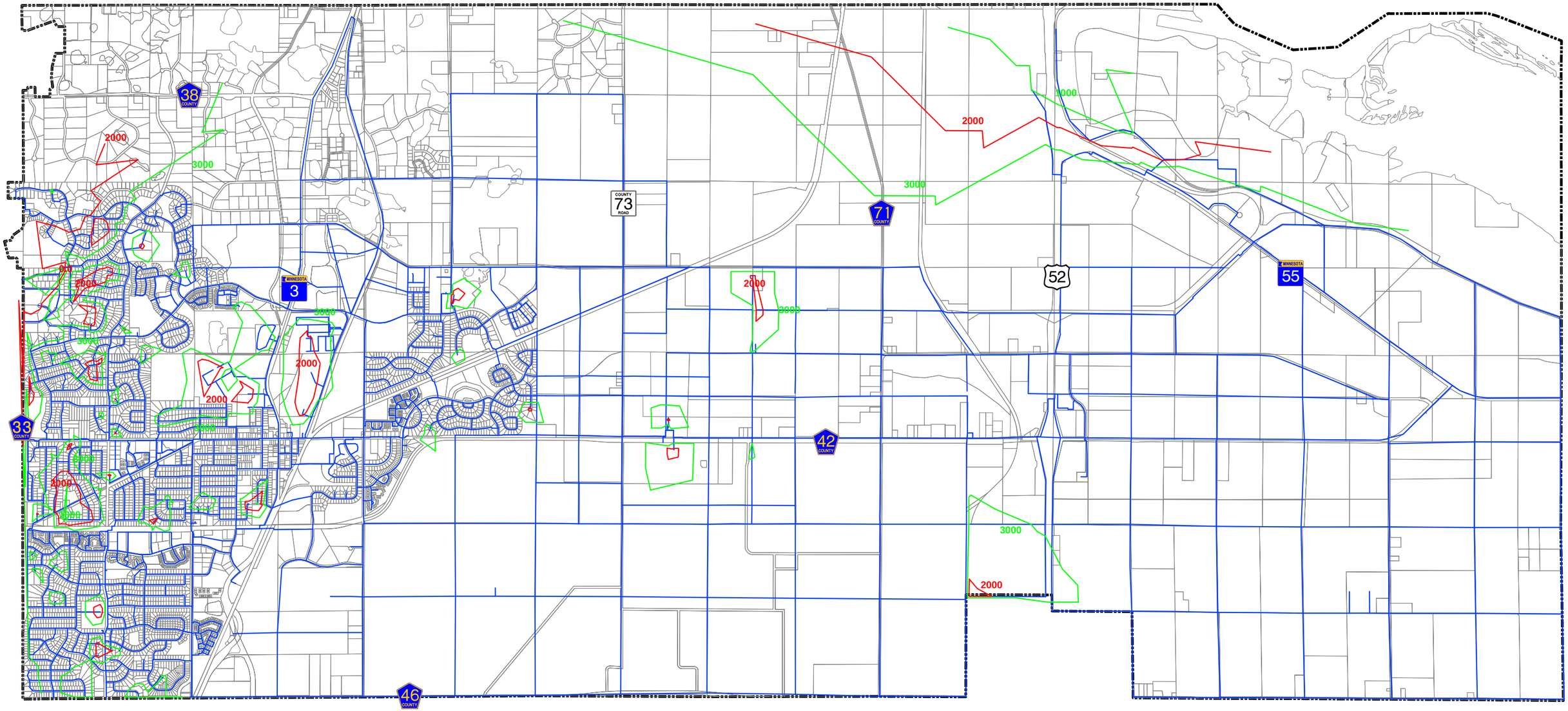
Ultimate System Minimum Hour Pressure Figure 24

File: M:\WaterWastewater\Rosemount\1582-00\GIS\Maps\Figure 25.mxd, Feb 04, 2008 4:29:49 PM



Comprehensive Water System Plan

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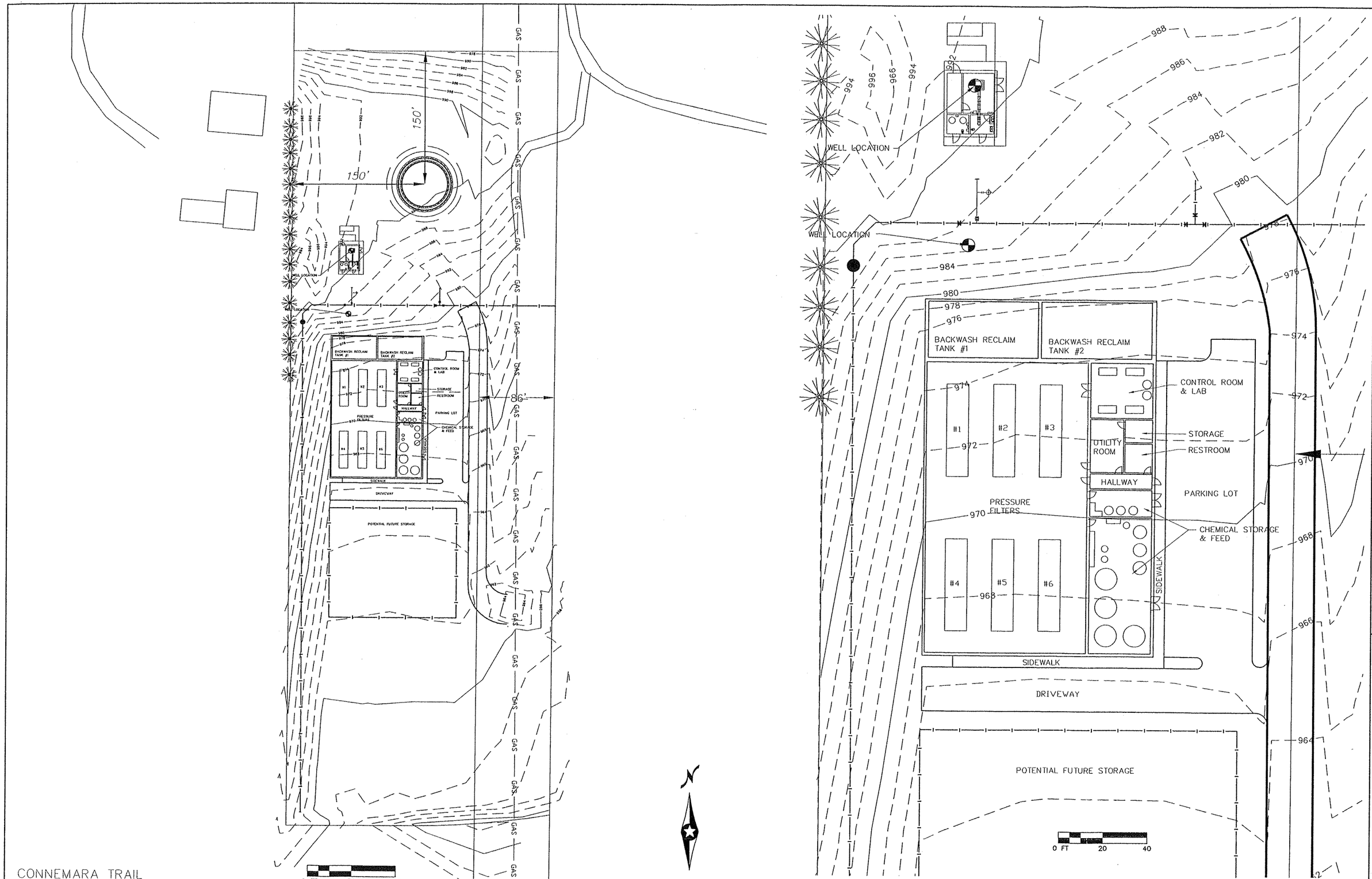
MINNESOTA

Ultimate System Available Fire Flow Figure 25



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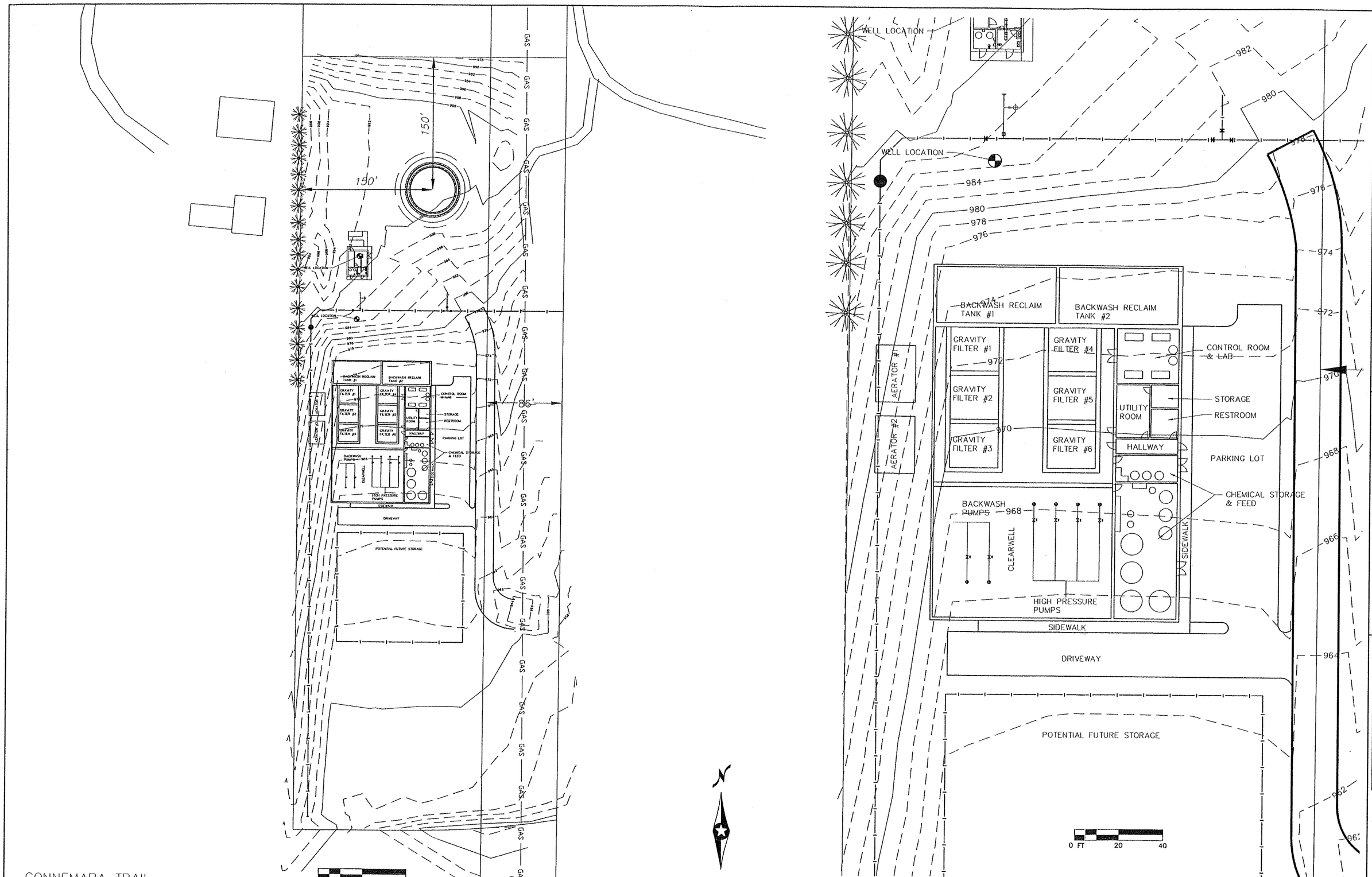

CITY PROJECT

10 MGD GRAVITY FILTER OPTION FOR NORTHWEST WTP

PAGE

FIGURE 27.

REVISION NO. DATE	EXPLANATION

SCALE: AS NOTED
PLAN BY: BJB
DESIGN BY: KN
CHECKED BY: KN
PROJECT NO: 01582-000
RECORD COPY BY:
DATE

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

KEVIN F. NEWMAN

DATE: LIC. NO. 25198

COMPREHENSIVE WATER SYSTEM PLAN FOR THE CITY OF ROSEMOUNT, MN

WSB & Associates, Inc.
701 Xenia Avenue South, Suite 300
Minneapolis, MN 55416
www.wsbeng.com
763-541-4800 - Fax 763-541-1700
INFRASTRUCTURE ■ ENGINEERING ■ PLANNING ■ CONSTRUCTION

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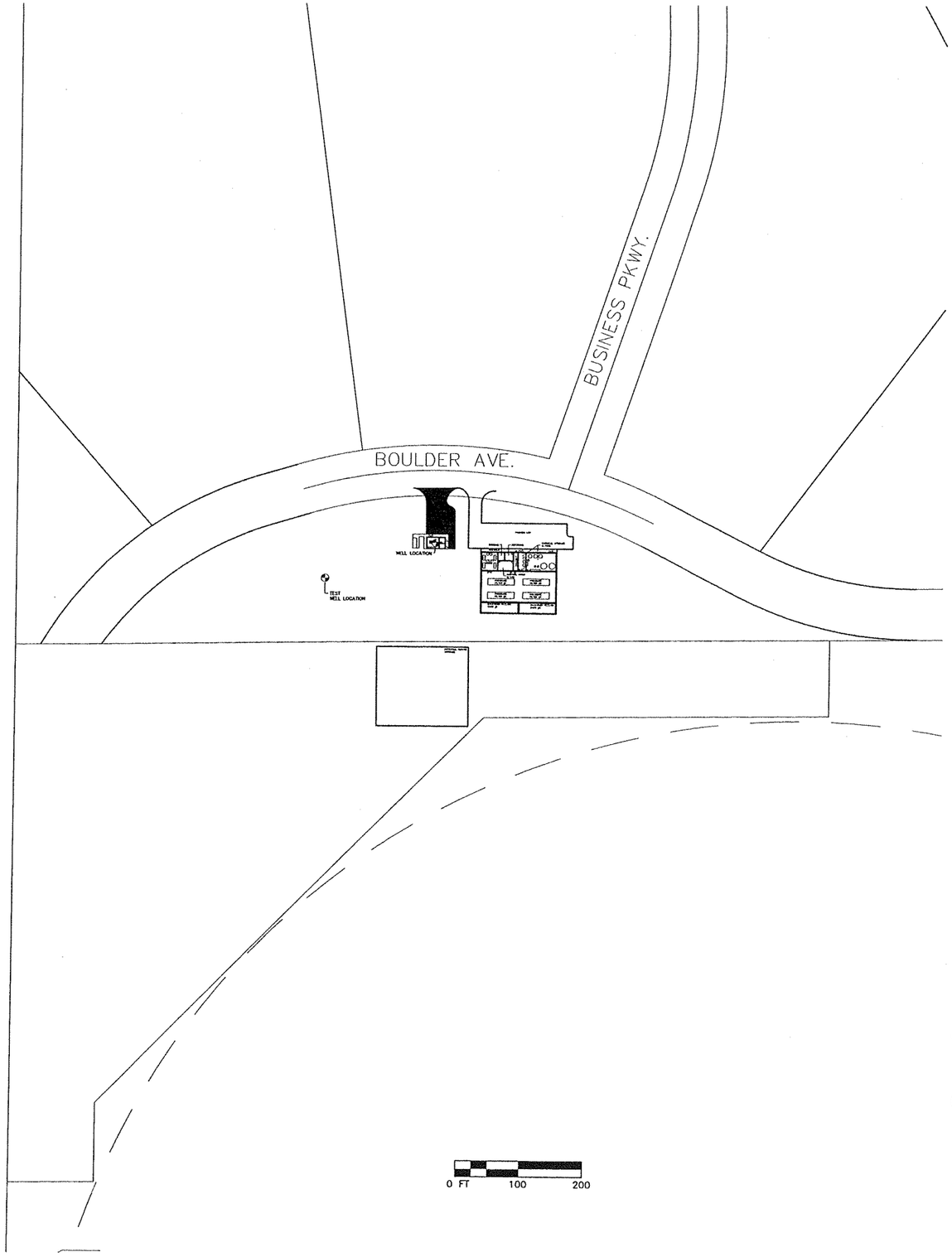

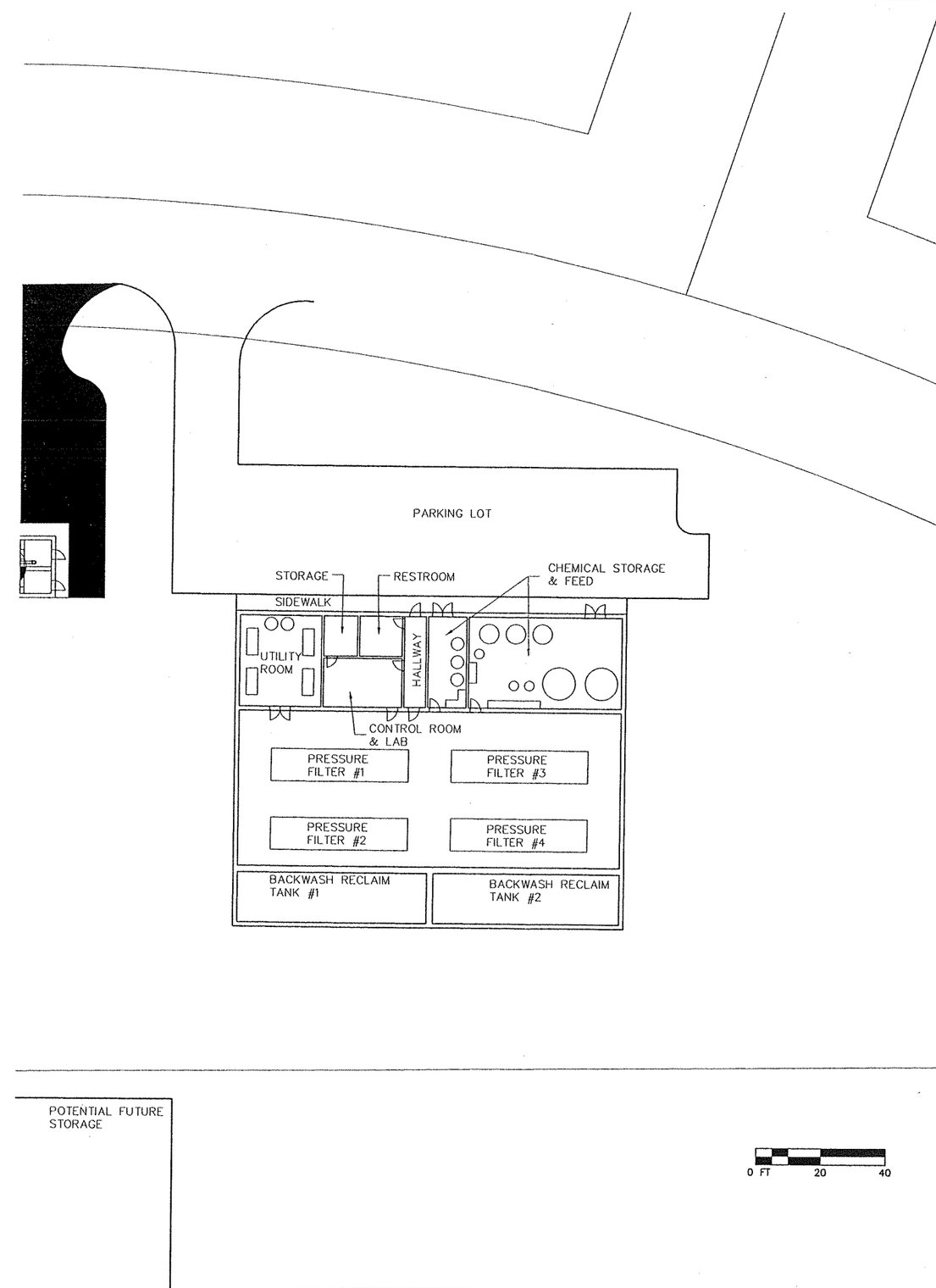

REVISION NO. DATE	EXPLANATION

SCALE: AS NOTED
PLAN BY: BJB
DESIGN BY: KN
CHECKED BY: KN
PROJECT NO: 01582-000
RECORD COPY BY:
DATE

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CITY PROJECT	6 MGD PRESSURE FILTER OPTION FOR SOUTHWEST WTP	PAGE FIGURE 28.

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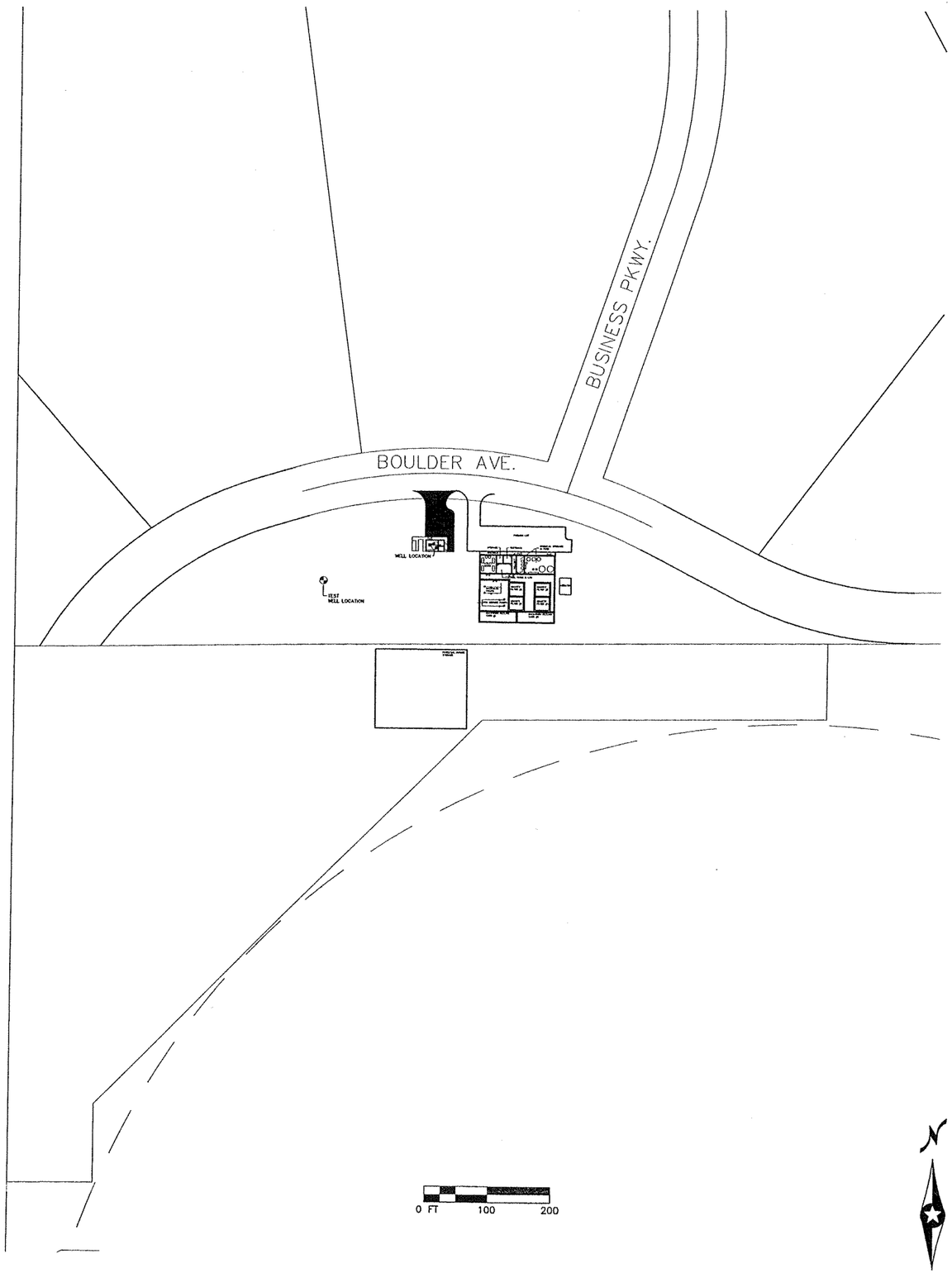

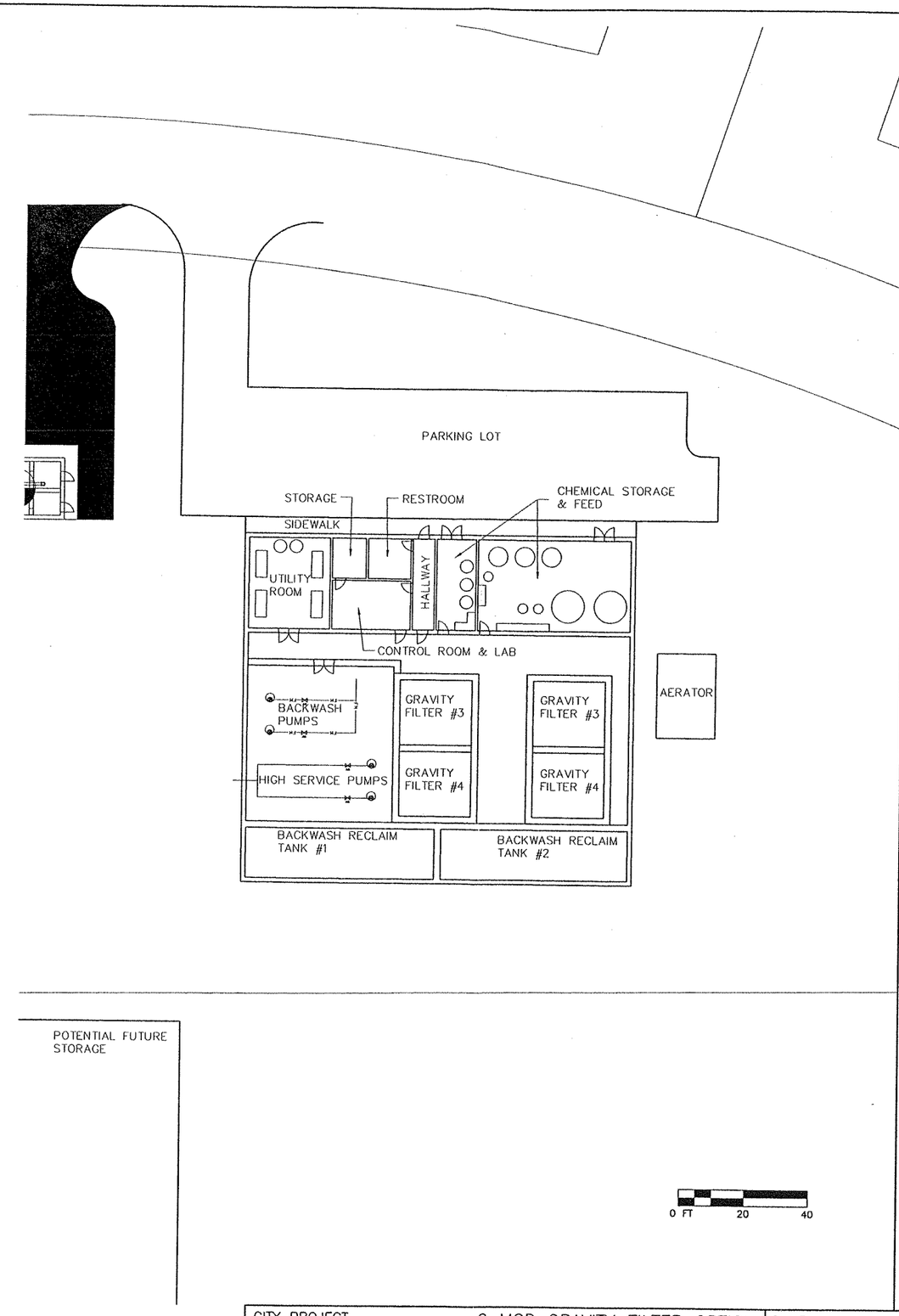

REVISION NO. DATE	EXPLANATION

SCALE: AS NOTED
PLAN BY: SJB
DESIGN BY: KN
CHECKED BY: KN
PROJECT NO. 01582-00
RECORD COPY BY:
DATE

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DATE: _____ LIC. NO: 25198

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CITY PROJECT

6 MGD GRAVITY FILTER OPTION FOR SOUTHWEST FTP

PAGE

FIGURE 29.

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APPENDIX A

10 MGD Iron and Manganese Removal Pressure Filter Plant
Enginneers Opinion of Total Probable Project Cost

Item No.	Item Description	Units	Quantity	Unit Price	Total Price
1	Sitework/Mobilization	LS	1	$500,000.00	$500,000.00
2	Building	LS	1	$1,600,000.00	$1,600,000.00
3	Backwash Reclaim Tanks	LS	1	$386,000.00	$386,000.00
4	Pressure Filters, Associated Piping & Equipment	LS	1	$2,200,000.00	$2,200,000.00
5	Laboratory Furniture and Equipment	LS	1	$25,000.00	$25,000.00
6	Backwash Reclaim Pumps	LS	1	$40,000.00	$40,000.00
7	Backwash Reclaim Sludge Pumps	LS	1	$30,000.00	$30,000.00
8	Chemical Storage and Feed Equipment	LS	1	$60,000.00	$60,000.00
9	Process Piping and Equipment	LS	1	$600,000.00	$600,000.00
10	Electrical	LS	1	$150,000.00	$150,000.00
11	HVAC & Plumbing	LS	1	$200,000.00	$200,000.00
12	Instrumentation and Controls	LS	1	$300,000.00	$300,000.00
13	Standby Generator and Transfer Switch	LS	1	$100,000.00	$100,000.00
14	Landscaping	LS	1	$25,000.00	$25,000.00
	Subtotal				$6,216,000.00
	Contingencies (15%)				$932,400.00
	Total Estimated Construction Cost				**$7,148,400.00**
	Engineering, Administration, and Legal Fees (20%)				$1,429,680.00
	Total Estimated Project Cost				**$8,578,080.00**

6 MGD Iron and Manganese Removal Pressure Filter Plant
Enginneers Opinion of Total Probable Project Cost

Item No.	Item Description	Units	Quantity	Unit Price	Total Price
1	Sitework/Mobilization	LS	1	$400,000.00	$400,000.00
2	Building	LS	1	$1,056,000.00	$1,056,000.00
3	Backwash Reclaim Tanks	LS	1	$330,000.00	$330,000.00
4	Pressure Filters, Associated Piping & Equipment	LS	1	$1,500,000.00	$1,500,000.00
5	Laboratory Furniture and Equipment	LS	1	$20,000.00	$20,000.00
6	Backwash Reclaim Pumps	LS	1	$30,000.00	$30,000.00
7	Backwash Reclaim Sludge Pumps	LS	1	$25,000.00	$25,000.00
8	Chemical Storage and Feed Equipment	LS	1	$45,000.00	$45,000.00
9	Process Piping and Equipment	LS	1	$460,000.00	$460,000.00
10	Electrical	LS	1	$135,000.00	$135,000.00
11	HVAC & Plumbing	LS	1	$170,000.00	$170,000.00
12	Instrumentation and Controls	LS	1	$250,000.00	$250,000.00
13	Standby Generator and Transfer Switch	LS	1	$75,000.00	$75,000.00
14	Landscaping	LS	1	$15,000.00	$15,000.00
	Subtotal				$4,511,000.00
	Contingencies (15%)				$676,650.00
	Total Estimated Construction Cost				**$5,187,650.00**
	Engineering, Administration, and Legal Fees (20%)				$1,037,530.00
	Total Estimated Project Cost				**$6,225,180.00**

11.5 MGD Iron and Manganese Removal Pressure Filter Plant
Enginneers Opinion of Total Probable Project Cost

Item No.	Item Description	Units	Quantity	Unit Price	Total Price
1	Sitework/Mobilization	LS	1	$550,000.00	$550,000.00
2	Building	LS	1	$1,700,000.00	$1,700,000.00
3	Backwash Reclaim Tanks	LS	1	$400,000.00	$400,000.00
4	Pressure Filters, Associated Piping & Equipment	LS	1	$2,510,000.00	$2,510,000.00
5	Laboratory Furniture and Equipment	LS	1	$25,000.00	$25,000.00
6	Backwash Reclaim Pumps	LS	1	$40,000.00	$40,000.00
7	Backwash Reclaim Sludge Pumps	LS	1	$30,000.00	$30,000.00
8	Chemical Storage and Feed Equipment	LS	1	$60,000.00	$60,000.00
9	Process Piping and Equipment	LS	1	$650,000.00	$650,000.00
10	Electrical	LS	1	$150,000.00	$150,000.00
11	HVAC & Plumbing	LS	1	$200,000.00	$200,000.00
12	Instrumentation and Controls	LS	1	$350,000.00	$350,000.00
13	Standby Generator and Transfer Switch	LS	1	$125,000.00	$125,000.00
14	Landscaping	LS	1	$25,000.00	$25,000.00
	Subtotal				$6,815,000.00
	Contingencies (15%)				$1,022,250.00
	Total Estimated Construction Cost				**$7,837,250.00**
	Engineering, Administration, and Legal Fees (20%)				$1,567,450.00
	Total Estimated Project Cost				**$9,404,700.00**

10 MGD Iron and Manganese Removal Gravity Filter Plant
Enginneers Opinion of Total Probable Project Cost

Item No.	Item Description	Units	Quantity	Unit Price	Total Price
1	Sitework/Mobilization	LS	1	$500,000.00	$500,000.00
2	Building	LS	1	$1,700,000.00	$1,700,000.00
	Head Tank Aerators	EA	2	$135,000.00	$270,000.00
3	Concrete Gravity Filter Tanks and Splitter Box	EA	6	$60,500.00	$363,000.00
4	Filter Media, Troughs, Underdrain Block, Associated Piping & Equipment	LS	1	$1,700,000.00	$1,700,000.00
5	Concrete Clearwell	LS	1	$400,000.00	$400,000.00
6	Concrete Backwash Reclaim Tanks	LS	1	$386,000.00	$386,000.00
7	Laboratory Furniture and Equipment	LS	1	$25,000.00	$25,000.00
8	Vertical Turbine Backwash Pumps	EA	2	$35,000.00	$70,000.00
9	Backwash Reclaim Pumps	EA	2	$20,000.00	$40,000.00
10	Backwash Reclaim Sludge Pumps	EA	2	$15,000.00	$30,000.00
11	Clearwell Discharge Pumps	EA	3	$50,000.00	$150,000.00
12	Chemical Storage and Feed Equipment	LS	1	$60,000.00	$60,000.00
13	Process Piping and Equipment	LS	1	$700,000.00	$700,000.00
14	Electrical	LS	1	$150,000.00	$150,000.00
15	HVAC & Plumbing	LS	1	$200,000.00	$200,000.00
16	Instrumentation and Controls	LS	1	$300,000.00	$300,000.00
17	Standby Generator and Transfer Switch	LS	1	$125,000.00	$125,000.00
18	Landscaping	LS	1	$25,000.00	$25,000.00
	Subtotal				$7,194,000.00
	Contingencies (15%)				$1,079,100.00
	Total Estimated Construction Cost				**$8,273,100.00**
	Engineering, Administration, and Legal Fees (20%)				$1,654,620.00
	Total Estimated Project Cost				**$9,927,720.00**

6 MGD Iron and Manganese Removal Gravity Filter Plant
Enginneers Opinion of Total Probable Project Cost

Item No.	Item Description	Units	Quantity	Unit Price	Total Price
1	Sitework/Mobilization	LS	1	$400,000.00	$400,000.00
2	Building	LS	1	$1,100,000.00	$1,100,000.00
	Head Tank Aerators	EA	1	$135,000.00	$135,000.00
3	Concrete Gravity Filter Tanks and Splitter Box	EA	4	$60,500.00	$242,000.00
4	Filter Media, Troughs, Underdrain Block, Associated Piping & Equipment	LS	1	$1,091,000.00	$1,091,000.00
5	Concrete Clearwell	LS	1	$350,000.00	$350,000.00
6	Concrete Backwash Reclaim Tanks	LS	1	$330,000.00	$330,000.00
7	Laboratory Furniture and Equipment	LS	1	$20,000.00	$20,000.00
8	Vertical Turbine Backwash Pumps	EA	2	$25,000.00	$50,000.00
9	Backwash Reclaim Pumps	EA	2	$15,000.00	$30,000.00
10	Backwash Reclaim Sludge Pumps	EA	2	$12,000.00	$24,000.00
11	Clearwell Discharge Pumps	EA	3	$35,000.00	$105,000.00
12	Chemical Storage and Feed Equipment	LS	1	$45,000.00	$45,000.00
13	Process Piping and Equipment	LS	1	$550,000.00	$550,000.00
14	Electrical	LS	1	$135,000.00	$135,000.00
15	HVAC & Plumbing	LS	1	$170,000.00	$170,000.00
16	Instrumentation and Controls	LS	1	$275,000.00	$275,000.00
17	Standby Generator and Transfer Switch	LS	1	$85,000.00	$85,000.00
18	Landscaping	LS	1	$15,000.00	$15,000.00
	Subtotal				$5,152,000.00
	Contingencies (15%)				$772,800.00
	Total Estimated Construction Cost				**$5,924,800.00**
	Engineering, Administration, and Legal Fees (20%)				$1,184,960.00
	Total Estimated Project Cost				**$7,109,760.00**

11.5 MGD Iron and Manganese Removal Gravity Filter Plant
Enginneers Opinion of Total Probable Project Cost

Item No.	Item Description	Units	Quantity	Unit Price	Total Price
1	Sitework/Mobilization	LS	1	$550,000.00	$550,000.00
2	Building	LS	1	$1,800,000.00	$1,800,000.00
	Head Tank Aerators	EA	2	$145,000.00	$290,000.00
3	Concrete Gravity Filter Tanks and Splitter Box	EA	8	$60,500.00	$484,000.00
4	Filter Media, Troughs, Underdrain Block, Associated Piping & Equipment	LS	1	$1,802,000.00	$1,802,000.00
5	Concrete Clearwell	LS	1	$425,000.00	$425,000.00
6	Concrete Backwash Reclaim Tanks	LS	1	$400,000.00	$400,000.00
7	Laboratory Furniture and Equipment	LS	1	$25,000.00	$25,000.00
8	Vertical Turbine Backwash Pumps	EA	2	$40,000.00	$80,000.00
9	Backwash Reclaim Pumps	EA	2	$20,000.00	$40,000.00
10	Backwash Reclaim Sludge Pumps	EA	2	$15,000.00	$30,000.00
11	Clearwell Discharge Pumps	EA	3	$50,000.00	$150,000.00
12	Chemical Storage and Feed Equipment	LS	1	$60,000.00	$60,000.00
13	Process Piping and Equipment	LS	1	$700,000.00	$700,000.00
14	Electrical	LS	1	$150,000.00	$150,000.00
15	HVAC & Plumbing	LS	1	$200,000.00	$200,000.00
16	Instrumentation and Controls	LS	1	$300,000.00	$300,000.00
17	Standby Generator and Transfer Switch	LS	1	$125,000.00	$125,000.00
18	Landscaping	LS	1	$25,000.00	$25,000.00
	Subtotal				$7,636,000.00
	Contingencies (15%)				$1,145,400.00
	Total Estimated Construction Cost				**$8,781,400.00**
	Engineering, Administration, and Legal Fees (20%)				$1,756,280.00
	Total Estimated Project Cost				**$10,537,680.00**