

Council Member Adella Gray
Ward 1 Position 1

Council Member Sarah Marsh
Ward 1 Position 2

Council Member Mark Kinion
Ward 2 Position 1

Council Member Matthew Petty
Ward 2 Position 2



Mayor Lioneld Jordan
City Attorney Kit Williams
City Clerk Sondra E. Smith

Council Member Justin Tennant
Ward 3 Position 1

Council Member Sarah Bunch
Ward 3 Position 2

Council Member John La Tour
Ward 4 Position 1

Alderman Kyle Smith
Ward 4 Position 2

**City of Fayetteville Arkansas
City Council Meeting
December 5, 2017**

A meeting of the Fayetteville City Council was held on December 5, 2017 at 5:30 p.m. in Room 219 of the City Administration Building located at 113 West Mountain Street, Fayetteville, Arkansas.

Call to Order

Roll Call

Pledge of Allegiance

Mayor's Announcements, Proclamations and Recognitions

City Council Meeting Presentations, Reports, and Discussion Items.

1. Monthly Financial Report - Paul Becker.
2. Election of Vice Mayor.

Agenda Additions

A. Consent:

1. Approval of the November 21, 2017 City Council Meeting Minutes.

Approved

2. **ARKANSAS FORESTRY COMMISSION FIREWISE GRANT:** A resolution to authorize acceptance of an Arkansas Firewise Grant from the Arkansas Forestry Commission in the amount of \$500.00 for use by the fire department, and to approve a budget adjustment.

PASSED AND SHALL BE RECORDED AS RESOLUTION NO. 247-17

3. **RFP #17-13 GALLAGHER BENEFITS SERVICES:** A resolution to award rfp #17-13 and authorize a one (1) year contract with Gallagher Benefits Services in the amount of \$80,000.00, with automatic renewals for up to four (4) additional one (1) year terms, for the provision of City Employee Benefits Broker Services.

PASSED AND SHALL BE RECORDED AS RESOLUTION NO. 248-17

4. **BID #17-57 TRUCK CENTERS:** A resolution to award bid #17-57 and authorize the purchase of a Freightliner M2-112 Roll Off Truck from Truck Centers of Springdale, Arkansas in the amount of \$148,663.00 for use by the Recycling and Trash Collection Division.

PASSED AND SHALL BE RECORDED AS RESOLUTION NO. 249-17

5. **BID #17-58 TRUCK SERVICE CENTER, INC.:** A resolution to award bid #17-58 and authorize the purchase of a Unicarriers PF50LP Forklift from Lift Truck Service Center, Inc. of Springdale, Arkansas in the amount of \$23,911.95 for use by the Wastewater Treatment Division.

PASSED AND SHALL BE RECORDED AS RESOLUTION NO. 250-17

6. **BID #17-62 WILLIAMS TRACTOR:** A resolution to award bid #17-62 and authorize the purchase of two Bobcat E45 T4 Compact Track Excavators from Williams Tractor of Fayetteville, Arkansas in the total amount of \$83,988.00 for use by the Water and Sewer Operations Division.

PASSED AND SHALL BE RECORDED AS RESOLUTION NO. 251-17

7. **BID #17-63 HENARD UTILITY, INC.:** A resolution to award bid #17-63 and authorize the purchase of a Seca Sewer Jetter Truck from Henard Utility, Inc. of Searcy, Arkansas in the amount of \$217,575.00 for use by the Water and Sewer Operations Division.

PASSED AND SHALL BE RECORDED AS RESOLUTION NO. 252-17

8. **SPRING STREET PARKING DECK FUND:** A resolution to close the Spring Street Parking Deck Fund, transfer about \$243,431.00 remaining in that fund to the parking fund and to approve the attached budget adjustment.

PASSED AND SHALL BE RECORDED AS RESOLUTION NO. 253-17

9. **BKD, LLP:** A resolution to approve a one year contract with BKD, LLP for auditing services for the 2017 Audit, with an option to renew for up to four additional one year terms.

PASSED AND SHALL BE RECORDED AS RESOLUTION NO. 254-17

10. **BID #17-56 81 CONSTRUCTION GROUP, INC.:** A resolution to award bid #17-56 and authorize a contract with 81 Construction Group, Inc. in the amount of \$435,650.00 for the construction of the Lake Sequoyah Basin 3 access road, and to approve a project contingency in the amount of \$43,565.00.

PASSED AND SHALL BE RECORDED AS RESOLUTION NO. 255-17

11. **MCCLELLAND CONSULTING ENGINEERS, INC.:** A resolution to approve a contract with McClelland Consulting Engineers, Inc. in the amount of \$15,200.00 for testing and surveying services associated with the construction of the Lake Sequoyah Basin 3 access road project, and to approve a budget adjustment.

PASSED AND SHALL BE RECORDED AS RESOLUTION NO. 256-17

12. **MCGOODWIN, WILLIAMS AND YATES, INC. AMENDMENT NO. 1:** A resolution to approve Amendment No. 1 to the contract with McGoodwin, Williams and Yates, Inc. in an amount not to exceed \$74,016.00 for changes to the Dinsmore Trail Water Main Plans, Construction Observation and Management Services, and assistance with pressure sustaining valves on the water mains.

PASSED AND SHALL BE RECORDED AS RESOLUTION NO. 257-17

B. Unfinished Business:

1. **REZONE COLLEGE AVENUE:** An ordinance to rezone all parcels within or near College Avenue as shown on exhibit c of the planning department's agenda memo comprising about 24.62 acres.

PASSED AND SHALL BE RECORDED AS ORDINANCE NO. 6016

2. **AMEND §166.21 DOWNTOWN DESIGN OVERLAY DISTRICT:** An ordinance to amend §166.21 downtown design overlay district by amending the applicability section to include College Avenue overlay district and to enact §166.26 College Avenue overlay district.

PASSED AND SHALL BE RECORDED AS ORDINANCE NO. 6017

C. New Business:

1. **WALTON FAMILY FOUNDATION DESIGN EXCELLENCE PROGRAM GRANT:** A resolution to thank the Walton Family Foundation, to authorize Mayor Jordan

to accept a design excellence program grant from the Walton Family Foundation in the amount of \$1,770,000.00 to fund the design of an interactive outdoor cultural arts corridor along the Razorback Regional Greenway, to authorize the issuance of a request for qualifications with the condition that only firms pre-approved by the Walton Family Foundation may respond, and to approve a budget adjustment.

PASSED AND SHALL BE RECORDED AS RESOLUTION NO. 258-17

2. **THEATRESQUARED, INCORPORATED:** A resolution to express the City Council's acceptance and approval of TheatreSquared, Incorporated's pledges and financial commitments as sufficient to ensure completion of TheatreSquared's \$31,500,000.00 theater project, and to authorize Mayor Jordan to invest the promised \$3,100,000.00 as construction reimbursements pursuant to the contract of June 28, 2017.

PASSED AND SHALL BE RECORDED AS RESOLUTION NO. 259-17

3. **AREA AGENCY ON AGING OF NORTHWEST ARKANSAS:** An ordinance to waive the requirements of formal competitive bidding and approve a contract between the City of Fayetteville, Arkansas and the Area Agency on Aging of Northwest Arkansas in the amount of \$98,887.00 to provide public recreation services for the senior citizens of Fayetteville for 2018.

AT THE DECEMBER 5, 2017 CITY COUNCIL MEETING THIS ORDINANCE WAS LEFT ON THE FIRST READING.

4. **FAYETTEVILLE YOUTH CENTER, INC.:** An ordinance to waive the requirements of formal competitive bidding and approve a contract between the City of Fayetteville, Arkansas and Fayetteville Youth Center, Inc. in the amount of \$225,000.00 to provide public recreation services for the youth and citizens of Fayetteville for 2018.

PASSED AND SHALL BE RECORDED AS ORDINANCE NO. 6018

5. **2017 WATER MASTER PLAN UPDATE:** A resolution to accept and adopt the 2017 Water Master Plan Update.

PASSED AND SHALL BE RECORDED AS RESOLUTION NO. 260-17

6. **CITY OF GREENLAND WASTEWATER CONTRACT:** A resolution to approve a fifteen (15) year contract with the City of Greenland to accept and process their wastewater and to authorize Mayor Jordan to sign this contract.

PASSED AND SHALL BE RECORDED AS RESOLUTION NO. 261-17

7. **ALLGEIER, MARTIN AND ASSOCIATES, INC.:** A resolution to authorize a professional engineering services agreement with Allgeier, Martin and Associates, Inc., pursuant to rfq #17-01, in an amount not to exceed \$480,049.00 for the engineering design and engineering observation and management services associated with electrical rehabilitation and improvements at the Paul R. Noland Wastewater Treatment Plant, to

approve a project contingency in the amount of \$48,004.90, and to approve a budget adjustment.

PASSED AND SHALL BE RECORDED AS RESOLUTION NO. 262-17

- 8. CH2M HILL ENGINEERS, INC. AMENDMENT NO. 9:** A resolution to approve Amendment No. 9 to the agreement for operations, maintenance and management services between the City of Fayetteville, Arkansas and CH2M Hill Engineers, Inc. in the amount of \$7,938,833.00 for services in 2018.

PASSED AND SHALL BE RECORDED AS RESOLUTION NO. 263-17

- 9. SALE OF SMALL PARCEL OF LAND - GEORGE'S MAJESTIC LOUNGE:** A resolution to authorize the sale of a small parcel of land south of George's Majestic Lounge and west of the railroad tracks.

PASSED AND SHALL BE RECORDED AS RESOLUTION NO. 264-17

D. City Council Agenda Session Presentations

1. Agenda Session Presentation - 2017-2018 Drainage Improvements Plan.

E. City Council Tour: Monday, December 4, 2017 4:30 PM

F. Announcements

Adjournment: 8:27 p.m.

Subject:	Roll				
	Petty	✓			
	Tennant	✓			
	Bunch	✓			
	La Tour	✓			
	Smith	✓			
	Gray	✓			
	Marsh	✓			
	Kinion	✓			
	Mayor Jordan	✓			

Subject:	ELECTION OF VICE MAYOR				
Motion To:		APPROVE Kinion	APPROVE Petty		
Motion By:		Marsh	La Tour		
Seconded:					
Council Member Kinion elected	Petty	—	Petty		
	Tennant	—	Petty		
	Bunch	Kinion	—		
	La Tour	—	Petty		
	Smith	Kinion	—		
	Gray	Kinion	—		
	Marsh	Kinion	—		
	Kinion	Kinion	—		
	Mayor Jordan				

Subject:	Consent				
Motion To:					
Motion By:		<i>Approve</i>			
Motion By:		<i>Marsh</i>			
Seconded:		<i>Gray</i>			
A. 1 - A. 12 <i>Approved</i> <i>247-17</i> <i>257-17</i>	Petty	✓			
	Tennant	✓			
	Bunch	✓			
	La Tour	✓			
	Smith	✓			
	Gray	✓			
	Marsh	✓			
	Kinion	✓			
	Mayor Jordan				

8-0

Subject:					
Motion To:					
Motion By:					
Seconded:					
	Petty				
	Tennant				
	Bunch				
	La Tour				
	Smith				
	Gray				
	Marsh				
	Kinion				
	Mayor Jordan				

Subject:	REZONE COLLEGE AVENUE				
Motion To:		2nd Read	Amend	3rd Read	Approve
Motion By:		Gray	Petty	La Tour	
Seconded:		Tennant	Kinion	Kinion	
Unfinished Business B. 1 <u>Approved</u> 6014	Petty	✓		✓	✓
	Tennant	✓	No	✓	✓
	Bunch	✓	Vote	✓	✓
	La Tour	✓		✓	✓
	Smith	✓		✓	✓
	Gray	✓		✓	✓
	Marsh	N		N	✓
	Kinion	✓		✓	✓
	Mayor Jordan				
		7-1		7-1	8-0

Subject:	AMEND §166.21 DOWNTOWN DESIGN OVERLAY DISTRICT				
Motion To:		Move to B.1.	2nd Read	As presented Amend	Build to zone Amend 0-10 ft setback
Motion By:		Marsh	Marsh	Marsh	Marsh
Seconded:		Kinion	Kinion	Kinion	Kinion
Unfinished Business B. 2 6017	Petty	✓	✓	✓	N
	Tennant	✓	✓	✓	N
	Bunch	✓	✓	✓	N
	La Tour	✓	✓	✓	N
	Smith	✓	✓	✓	N
	Gray	✓	✓	✓	N
	Marsh	✓	✓	✓	✓
	Kinion	✓	✓	✓	N
	Mayor Jordan				
		8-0	8-0	8-0	1-7 failed

Subject:	Amend 166.31				
Motion To:		3rd Read	Approve		
Motion By:		Gray			
Seconded:		Kinion			
B.2, Approved 6017	Petty	✓	✓		
	Tennant	✓	✓		
	Bunch	✓	✓		
	La Tour	✓	✓		
	Smith	✓	✓		
	Gray	✓	✓		
	Marsh	✓	✓		
	Kinion	✓	✓		
	Mayor Jordan				

8-0

7-1

Subject:					
Motion To:					
Motion By:					
Seconded:					
	Petty				
	Tennant				
	Bunch				
	La Tour				
	Smith				
	Gray				
	Marsh				
	Kinion				
	Mayor Jordan				

Subject:	WALTON FAMILY FOUNDATION DESIGN EXCELLENCE PROGRAM GRANT				
Motion To:		<i>Approve</i>			
Motion By:		<i>Petty</i>			
Seconded:		<i>Kinion</i>			
C. 1 New Business <i>Approved</i> <i>258-17</i>	Petty	<i>✓</i>			
	Tennant	<i>✓</i>			
	Bunch	<i>✓</i>			
	La Tour	<i>✓</i>			
	Smith	<i>✓</i>			
	Gray	<i>✓</i>			
	Marsh	<i>✓</i>			
	Kinion	<i>✓</i>			
	Mayor Jordan				

8-0

Subject:	THEATRESQUARED, INCORPORATED				
Motion To:		<i>Approve</i>			
Motion By:		<i>Gray</i>			
Seconded:		<i>Marsh</i>			
C. 2 New Business <i>Approved</i> <i>259-17</i>	Petty	<i>✓</i>			
	Tennant	<i>✓</i>			
	Bunch	<i>✓</i>			
	La Tour	<i>✓</i>			
	Smith	<i>✓</i>			
	Gray	<i>✓</i>			
	Marsh	<i>✓</i>			
	Kinion	<i>✓</i>			
	Mayor Jordan				

8-0

Subject:	AREA AGENCY ON AGING OF NORTHWEST ARKANSAS				
Motion To:		<i>2nd Read</i>	<i>3rd Read</i>	<i>Approve</i>	
Motion By:					
Seconded:					
C. 3 New Business <i>Left on the First Reading</i>	Petty				
	Tennant				
	Bunch				
	La Tour				
	Smith				
	Gray				
	Marsh				
	Kinion				
	Mayor Jordan				

Subject:	FAYETTEVILLE YOUTH CENTER, INC.				
Motion To:		<i>2nd Read</i>	<i>3rd Read</i>	<i>Approve</i>	
Motion By:		<i>Marsh</i>	<i>Marsh</i>		
Seconded:		<i>Gray</i>	<i>Kinion</i>		
C. 4 New Business <i>Approved</i> <i>6018</i>	Petty	<i>✓</i>	<i>✓</i>	<i>✓</i>	
	Tennant	<i>✓</i>	<i>✓</i>	<i>✓</i>	
	Bunch	<i>✓</i>	<i>✓</i>	<i>✓</i>	
	La Tour	<i>✓</i>	<i>✓</i>	<i>✓</i>	
	Smith	<i>✓</i>	<i>✓</i>	<i>✓</i>	
	Gray	<i>✓</i>	<i>✓</i>	<i>✓</i>	
	Marsh	<i>✓</i>	<i>✓</i>	<i>✓</i>	
	Kinion	<i>✓</i>	<i>✓</i>	<i>✓</i>	
	Mayor Jordan				
		<i>8-0</i>	<i>8-0</i>	<i>8-0</i>	

Subject:	2017 WATER MASTER PLAN UPDATE				
Motion To:		<i>Approve</i>			
Motion By:		<i>Marsh</i>			
Seconded:		<i>Kinion</i>			
C. 5 New Business <i>Approved</i> <i>260-17</i>	Petty	✓			
	Tennant	✓			
	Bunch	✓			
	La Tour	✓			
	Smith	✓			
	Gray	✓			
	Marsh	✓			
	Kinion	✓			
	Mayor Jordan				

8-0

Subject:	CITY OF GREENLAND WASTEWATER CONTRACT				
Motion To:		<i>Approve</i>			
Motion By:		<i>Marsh</i>			
Seconded:		<i>Kinion</i>			
C. 6 New Business <i>Approved</i> <i>261-17</i>	Petty	✓			
	Tennant	✓			
	Bunch	✓			
	La Tour	✓			
	Smith	✓			
	Gray	✓			
	Marsh	✓			
	Kinion	✓			
	Mayor Jordan				

8-0

Subject:	ALLGEIER, MARTIN AND ASSOCIATES, INC.:				
Motion To:		<i>Approve</i>			
Motion By:		<i>Marsh</i>			
Seconded:		<i>Kinion</i>			
C. 7 New Business <i>Approved</i> <i>262-17</i>	Petty	✓			
	Tennant	✓			
	Bunch	✓			
	La Tour	✓			
	Smith	✓			
	Gray	✓			
	Marsh	✓			
	Kinion	✓			
	Mayor Jordan				

8-0

Subject:	CH2M HILL ENGINEERS, INC. AMENDMENT NO. 9				
Motion To:		<i>Approve</i>			
Motion By:		<i>Marsh</i>			
Seconded:		<i>Kinion</i>			
C. 8 New Business <i>Approved</i> <i>263-17</i>	Petty	✓			
	Tennant	✓			
	Bunch	✓			
	La Tour	✓			
	Smith	✓			
	Gray	✓			
	Marsh	✓			
	Kinion	✓			
	Mayor Jordan				

8-0

Subject:		SALE OF SMALL PARCEL OF LAND - GEORGE'S MAJESTIC LOUNGE			
Motion To:		<i>Amend</i>	<i>Amend</i>	<i>Approve</i>	
Motion By:		<i>Tennant</i>	<i>Petty</i>	<i>Kinion</i>	
Seconded:		<i>Kinion</i>	<i>La Tour</i>	<i>Marsh</i>	
C. 9 New Business <i>Approve</i> <i>264-17</i>	Petty	✓	✓	✓	
	Tennant	✓	✓	✓	
	Bunch	✓	✓	✓	
	La Tour	✓	✓	✓	
	Smith	✓	✓	✓	
	Gray	✓	✓	✓	
	Marsh	✓	✓	✓	
	Kinion	✓	✓	✓	
	Mayor Jordan				
		<i>8-0</i>	<i>8-0</i>	<i>8-0</i>	

Subject:					
Motion To:					
Motion By:					
Seconded:					
New Business	Petty				
	Tennant				
	Bunch				
	La Tour				
	Smith				
	Gray				
	Marsh				
	Kinion				
	Mayor Jordan				



OFFICE OF THE
CITY ATTORNEY

DEPARTMENTAL CORRESPONDENCE



Kit Williams
City Attorney

Blake Pennington
Assistant City Attorney

Rhonda Lynch
Paralegal

TO: **Mayor Jordan**

THRU: **Sondra Smith**, City Clerk

FROM: **Kit Williams**, City Attorney

DATE: **December 6, 2017**

RE: **Resolutions and Ordinances prepared by the City Attorney's Office and passed at the City Council meeting of December 5, 2017**

1. A resolution to authorize acceptance of an Arkansas Firewise Grant from the Arkansas Forestry Commission in the amount of \$500.00 for use by the Fire Department, and to approve a budget adjustment.
2. A resolution to award RFP #17-13 and authorize a one (1) year contract with Gallagher Benefits Services in the amount of \$80,000.00, with automatic renewals for up to four (4) additional one (1) year terms, for the provision of city employee benefits broker services.
3. A resolution to award bid #17-57 and authorize the purchase of a Freightliner M2-112 roll off truck from Truck Centers of Springdale, Arkansas in the amount of \$148,663.00 for use by the Recycling and Trash Collection Division.
4. A resolution to award bid #17-58 and authorize the purchase of a Unicarriers PF501P forklift from Lift Truck Service Center, Inc. of Springdale, Arkansas in the amount of \$23,911.95 for use by the Wastewater Treatment Division.
5. A resolution to award bid #17-62 and authorize the purchase of two Bobcat E45 T4 compact track excavators from Williams Tractor of Fayetteville, Arkansas in the total amount of \$83,988.00 for use by the Water and Sewer Operations Division.
6. A resolution to award bid #17-63 and authorize the purchase of a Seca Sewer Jetter Truck from Henard Utility, Inc. of Searcy, Arkansas in the amount of \$217,575.00 for use by the Water and Sewer Operations Division.
7. A resolution to close the Spring Street Parking Deck Fund, transfer about \$243,431.00 remaining in that fund to the Parking Fund and to approve the attached budget adjustment.

8. A resolution to approve a one year contract with BKD, LLP for auditing services for the 2017 audit, with an option to renew for up to four additional one year terms.

9. A resolution to award bid #17-56 and authorize a contract with 81 Construction Group, Inc. in the amount of \$435,650.00 for the construction of the Lake Sequoyah Basin 3 Access Road, and to approve a project contingency in the amount of \$43,565.00.

10. A resolution to approve a contract with McClelland Consulting Engineers, Inc. in the amount of \$15,200.00 for testing and surveying services associated with the construction of the Lake Sequoyah Basin 3 Access Road Project, and to approve a budget adjustment.

11. A resolution to approve Amendment No. 1 to the contract with McGoodwin, Williams and Yates, Inc. in an amount not to exceed \$74,016.00 for changes to the Dinsmore Trail water main plans, construction observation and management services, and assistance with pressure sustaining valves on the water mains.

12. An ordinance to rezone all parcels within or near College Avenue as shown on Exhibit C of the Planning Department's agenda memo comprising about 24.62 acres.

13. An ordinance to amend §166.21 **Downtown Design Overlay District** by amending the applicability section to include College Avenue Overlay District and to enact §166.26 **College Avenue Overlay District**.

14. A resolution to thank the Walton Family Foundation, to authorize Mayor Jordan to accept a Design Excellence Program Grant from the Walton Family Foundation in the amount of \$1,770,000.00 to fund the design of an interactive outdoor cultural arts corridor along the Razorback Regional Greenway, to authorize the issuance of a request for qualifications with the condition that only firms pre-approved by the Walton Family Foundation may respond, and to approve a budget adjustment.

15. A resolution to express the City Council's acceptance and approval of Theatresquared, Incorporated's pledges and financial commitments as sufficient to ensure completion of Theatresquared's \$31,500,000.00 theater project, and to authorize Mayor Jordan to invest the promised \$3,100,000.00 as construction reimbursements pursuant to the contract of June 28, 2017.

16. An ordinance to waive the requirements of formal competitive bidding and approve a contract between the City of Fayetteville, Arkansas and Fayetteville Youth Center, Inc. in the amount of \$225,000.00 to provide public recreation services for the youth and citizens of Fayetteville for 2018.

17. A resolution to accept and adopt the 2017 water master plan update.

amount of \$225,000.00 to provide public recreation services for the youth and citizens of Fayetteville for 2018.

18. A resolution to accept and adopt the 2017 water master plan update.

19. A resolution to approve a fifteen (15) year contract with the City of Greenland to accept and process their wastewater and to authorize Mayor Jordan to sign this contract.

20. A resolution to authorize a professional engineering services agreement with Allgeier, Martin and Associates, Inc., pursuant to RFQ #17-01, in an amount not to exceed \$480,049.00 for the engineering design and engineering observation and management services associated with electrical rehabilitation and improvements at the Paul R. Noland Wastewater Treatment Plant, to approve a project contingency in the amount of \$48,004.90, and to approve a budget adjustment.

21. A resolution to approve amendment no. 9 to the agreement for operations, maintenance and management services between the City of Fayetteville, Arkansas and CH2M Hill Engineers, Inc. in the amount of \$7,938,833.00 for services in 2018.

22. A resolution to authorize the sale of a small parcel of land south of George's Majestic Lounge and west of the railroad tracks.

City of Fayetteville, Arkansas

*113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323*



City Council Meeting Final Agenda

Tuesday, December 5, 2017

5:30 PM

City Hall Room 219

City Council Members

Adella Gray Ward 1

Sarah Marsh Ward 1

Mark Kinion Ward 2

Matthew Petty Ward 2

Justin Tennant Ward 3

Sarah Bunch Ward 3

John S. La Tour Ward 4

Kyle Smith Ward 4

ELECTED OFFICIALS:

Mayor Lioneld Jordan

City Attorney Kit Williams

City Clerk Sondra Smith

Call To Order**Roll Call****Pledge of Allegiance****Mayor's Announcements, Proclamations and Recognitions****City Council Meeting Presentations, Reports and Discussion Items****1. [2017-0539](#)**

MONTHLY FINANCIAL REPORT - PAUL BECKER

2. [2017-0681](#)

ELECTION OF VICE MAYOR

Agenda Additions**A. Consent****A. 1 [2016-0588](#)**

APPROVAL OF THE NOVEMBER 21, 2017 CITY COUNCIL MEETING MINUTES.

A. 2 [2017-0676](#)**ARKANSAS FORESTRY COMMISSION FIREWISE GRANT:**

A RESOLUTION TO AUTHORIZE ACCEPTANCE OF AN ARKANSAS FIREWISE GRANT FROM THE ARKANSAS FORESTRY COMMISSION IN THE AMOUNT OF \$500.00 FOR USE BY THE FIRE DEPARTMENT, AND TO APPROVE A BUDGET ADJUSTMENT

Attachments:

[ARKANSAS FORESTRY COMMISSION FIREWISE GRANT](#)

[BA ARKANSAS FORESTRY COMMISSION FIREWISE GRANT](#)

A. 3 [2017-0651](#)**RFP #17-13 GALLAGHER BENEFITS SERVICES:**

A RESOLUTION TO AWARD RFP #17-13 AND AUTHORIZE A ONE (1) YEAR CONTRACT WITH GALLAGHER BENEFITS SERVICES IN THE AMOUNT OF \$80,000.00, WITH AUTOMATIC RENEWALS FOR UP TO FOUR (4) ADDITIONAL ONE (1) YEAR TERMS, FOR THE PROVISION OF CITY EMPLOYEE BENEFITS BROKER SERVICES

Attachments: [RFP #17-13 GALLAGHER BENEFITS SERVICES:](#)

A. 4 [2017-0669](#)**BID #17-57 TRUCK CENTERS:**

A RESOLUTION TO AWARD BID #17-57 AND AUTHORIZE THE PURCHASE OF A FREIGHTLINER M2-112 ROLL OFF TRUCK FROM TRUCK CENTERS OF SPRINGDALE, ARKANSAS IN THE AMOUNT OF \$148,663.00 FOR USE BY THE RECYCLING AND TRASH COLLECTION DIVISION

Attachments: [BID 17-57 TRUCK CENTERS OF ARKANSAS:](#)

A. 5 [2017-0671](#)**BID #17-58 TRUCK SERVICE CENTER, INC.:**

A RESOLUTION TO AWARD BID #17-58 AND AUTHORIZE THE PURCHASE OF A UNICARRIERS PF50LP FORKLIFT FROM LIFT TRUCK SERVICE CENTER, INC. OF SPRINGDALE, ARKANSAS IN THE AMOUNT OF \$23,911.95 FOR USE BY THE WASTEWATER TREATMENT DIVISION

Attachments: [BID 17-58 LIFT TRUCK SERVICE CENTER OF SPRINGDALE](#)

A. 6 [2017-0670](#)**BID #17-62 WILLIAMS TRACTOR:**

A RESOLUTION TO AWARD BID #17-62 AND AUTHORIZE THE PURCHASE OF TWO BOBCAT E45 T4 COMPACT TRACK EXCAVATORS FROM WILLIAMS TRACTOR OF FAYETTEVILLE, ARKANSAS IN THE TOTAL AMOUNT OF \$83,988.00 FOR USE BY THE WATER AND SEWER OPERATIONS DIVISION

Attachments: [BID #17-62 WILLIAMS TRACTOR](#)

A. 7 [2017-0668](#)**BID #17-63 HENARD UTILITY, INC.:**

A RESOLUTION TO AWARD BID #17-63 AND AUTHORIZE THE PURCHASE OF A SECA SEWER JETTER TRUCK FROM HENARD UTILITY, INC. OF SEARCY, ARKANSAS IN THE AMOUNT OF \$217,575.00 FOR USE BY THE WATER AND SEWER OPERATIONS DIVISION

Attachments: [BID 17-63 HENARD UTILITY PRODUCTS, INC:](#)

A. 8 [2017-0667](#)**SPRING STREET PARKING DECK FUND:**

A RESOLUTION TO CLOSE THE SPRING STREET PARKING DECK FUND, TRANSFER ABOUT \$243,431.00 REMAINING IN THAT FUND TO THE PARKING FUND AND TO APPROVE THE ATTACHED BUDGET ADJUSTMENT

Attachments: [SPRING STREET PARKING DECK FUND](#)
 [BA SPRING STREET PARKING DECK FUND](#)

A. 9 [2017-0672](#)**BKD, LLP:**

A RESOLUTION TO APPROVE A ONE YEAR CONTRACT WITH BKD, LLP FOR AUDITING SERVICES FOR THE 2017 AUDIT, WITH AN OPTION TO RENEW FOR UP TO FOUR ADDITIONAL ONE YEAR TERMS

Attachments: [BKD,LLP](#)

A. 10 [2017-0652](#)**BID #17-56 81 CONSTRUCTION GROUP, INC.:**

A RESOLUTION TO AWARD BID #17-56 AND AUTHORIZE A CONTRACT WITH 81 CONSTRUCTION GROUP, INC. IN THE AMOUNT OF \$435,650.00 FOR THE CONSTRUCTION OF THE LAKE SEQUOYAH BASIN 3 ACCESS ROAD, AND TO APPROVE A PROJECT CONTINGENCY IN THE AMOUNT OF \$43,565.00

Attachments: [BID #17-56 81 CONSTRUCTION GROUP, INC.](#)

A. 11 [2017-0653](#)**MCCLELLAND CONSULTING ENGINEERS, INC.:**

A RESOLUTION TO APPROVE A CONTRACT WITH MCCLELLAND CONSULTING ENGINEERS, INC. IN THE AMOUNT OF \$15,200.00 FOR TESTING AND SURVEYING SERVICES ASSOCIATED WITH THE CONSTRUCTION OF THE LAKE SEQUOYAH BASIN 3 ACCESS ROAD PROJECT, AND TO APPROVE A BUDGET ADJUSTMENT

Attachments: [MCCLELLAND CONSULTING ENGINEERS, INC.](#)
 [BA MCCLELLAND CONSULTING ENGINEERS, INC.](#)

A. 12 [2017-0655](#)**MCGOODWIN, WILLIAMS AND YATES, INC. AMENDMENT NO. 1:**

A RESOLUTION TO APPROVE AMENDMENT NO. 1 TO THE CONTRACT WITH MCGOODWIN, WILLIAMS AND YATES, INC. IN AN AMOUNT NOT TO EXCEED \$74,016.00 FOR CHANGES TO THE DINSMORE TRAIL WATER MAIN PLANS, CONSTRUCTION OBSERVATION AND MANAGEMENT SERVICES, AND ASSISTANCE WITH PRESSURE SUSTAINING VALVES ON THE WATER MAINS

Attachments: [MCGOODWIN, WILLIAMS AND YATES, INC.](#)

B. Unfinished Business

B. 1 [2017-0650](#)**REZONE COLLEGE AVENUE:**

AN ORDINANCE TO REZONE ALL PARCELS WITHIN OR NEAR COLLEGE AVENUE AS SHOWN ON EXHIBIT C OF THE PLANNING DEPARTMENT'S AGENDA MEMO COMPRISING ABOUT 24.62 ACRES

Attachments: [REZONE COLLEGE AVENUE](#)

This ordinance was left on the first reading at the November 21, 2017 City Council meeting.

B. 2 [2017-0648](#)**AMEND §166.21 DOWNTOWN DESIGN OVERLAY DISTRICT:**

AN ORDINANCE TO AMEND §166.21 **DOWNTOWN DESIGN OVERLAY DISTRICT** BY AMENDING THE APPLICABILITY SECTION TO INCLUDE COLLEGE AVENUE OVERLAY DISTRICT AND TO ENACT §166.26 **COLLEGE AVENUE OVERLAY DISTRICT**

Attachments: [AMEND §166.21 DOWNTOWN DESIGN OVERLAY DISTRICT](#)

This ordinance was left on the first reading at the November 21, 2017 City Council meeting.

C. New Business**C. 1** [2017-0628](#)**WALTON FAMILY FOUNDATION DESIGN EXCELLENCE PROGRAM GRANT:**

A RESOLUTION TO THANK THE WALTON FAMILY FOUNDATION, TO AUTHORIZE MAYOR JORDAN TO ACCEPT A DESIGN EXCELLENCE PROGRAM GRANT FROM THE WALTON FAMILY FOUNDATION IN THE AMOUNT OF \$1,770,000.00 TO FUND THE DESIGN OF AN INTERACTIVE OUTDOOR CULTURAL ARTS CORRIDOR ALONG THE RAZORBACK REGIONAL GREENWAY, TO AUTHORIZE THE ISSUANCE OF A REQUEST FOR QUALIFICATIONS WITH THE CONDITION THAT ONLY FIRMS PRE-APPROVED BY THE WALTON FAMILY FOUNDATION MAY RESPOND, AND TO APPROVE A BUDGET ADJUSTMENT

Attachments: [WALTON FAMILY FOUNDATION DESIGN EXCELLENCE PROGRAM GRANT](#)
 [BA_WALTON FAMILY FOUNDATION DESIGN EXCELLENCE GRANT](#)

C. 2 [2017-0660](#)**THEATRESQUARED, INCORPORATED:**

A RESOLUTION TO EXPRESS THE CITY COUNCIL'S ACCEPTANCE AND APPROVAL OF THEATRESQUARED, INCORPORATED'S PLEDGES AND FINANCIAL COMMITMENTS AS SUFFICIENT TO ENSURE COMPLETION OF THEATRESQUARED'S \$31,500,000.00 THEATER PROJECT, AND TO AUTHORIZE MAYOR JORDAN TO INVEST THE PROMISED \$3,100,000.00 AS CONSTRUCTION REIMBURSEMENTS PURSUANT TO THE CONTRACT OF JUNE 28, 2017

Attachments: [THEATRESQUARED, INCORPORATED](#)

C. 3 [2017-0661](#)**AREA AGENCY ON AGING OF NORTHWEST ARKANSAS:**

AN ORDINANCE TO WAIVE THE REQUIREMENTS OF FORMAL COMPETITIVE BIDDING AND APPROVE A CONTRACT BETWEEN THE CITY OF FAYETTEVILLE, ARKANSAS AND THE AREA AGENCY ON AGING OF NORTHWEST ARKANSAS IN THE AMOUNT OF \$98,887.00 TO PROVIDE PUBLIC RECREATION SERVICES FOR THE SENIOR CITIZENS OF FAYETTEVILLE FOR 2018

Attachments: [AREA AGENCY ON AGING OF NORTHWEST ARKANSAS](#)

C. 4 [2017-0659](#)**FAYETTEVILLE YOUTH CENTER, INC.:**

AN ORDINANCE TO WAIVE THE REQUIREMENTS OF FORMAL COMPETITIVE BIDDING AND APPROVE A CONTRACT BETWEEN THE CITY OF FAYETTEVILLE, ARKANSAS AND FAYETTEVILLE YOUTH CENTER, INC. IN THE AMOUNT OF \$225,000.00 TO PROVIDE PUBLIC RECREATION SERVICES FOR THE YOUTH AND CITIZENS OF FAYETTEVILLE FOR 2018

Attachments: [FAYETTEVILLE YOUTH CENTER, INC.](#)

C. 5 [2017-0594](#)**2017 WATER MASTER PLAN UPDATE:**

A RESOLUTION TO ACCEPT AND ADOPT THE 2017 WATER MASTER PLAN UPDATE

Attachments: [2017 WATER MASTER PLAN UPDATE](#)

C. 6 [2017-0679](#)**CITY OF GREENLAND WASTEWATER CONTRACT:**

A RESOLUTION TO APPROVE A FIFTEEN (15) YEAR CONTRACT WITH THE CITY OF GREENLAND TO ACCEPT AND PROCESS THEIR WASTEWATER AND TO AUTHORIZE MAYOR JORDAN TO SIGN THIS CONTRACT

Attachments: [CITY OF GREENLAND WASTEWATER CONTRACT](#)

C. 7 [2017-0654](#)**ALLGEIER, MARTIN AND ASSOCIATES, INC.:**

A RESOLUTION TO AUTHORIZE A PROFESSIONAL ENGINEERING SERVICES AGREEMENT WITH ALLGEIER, MARTIN AND ASSOCIATES, INC., PURSUANT TO RFQ #17-01, IN AN AMOUNT NOT TO EXCEED \$480,049.00 FOR THE ENGINEERING DESIGN AND ENGINEERING OBSERVATION AND MANAGEMENT SERVICES ASSOCIATED WITH ELECTRICAL REHABILITATION AND IMPROVEMENTS AT THE PAUL R. NOLAND WASTEWATER TREATMENT PLANT, TO APPROVE A PROJECT CONTINGENCY IN THE AMOUNT OF \$48,004.90, AND TO APPROVE A BUDGET ADJUSTMENT

Attachments: [ALLGEIER, MARTIN AND ASSOCIATES, INC.](#)
 [BA ALLGEIER, MARTIN AND ASSOCIATES, INC.](#)

C. 8 [2017-0666](#)**CH2M HILL ENGINEERS, INC. AMENDMENT NO. 9:**

A RESOLUTION TO APPROVE AMENDMENT NO. 9 TO THE AGREEMENT FOR OPERATIONS, MAINTENANCE AND MANAGEMENT SERVICES BETWEEN THE CITY OF FAYETTEVILLE, ARKANSAS AND CH2M HILL ENGINEERS, INC. IN THE AMOUNT OF \$7,938,833.00 FOR SERVICES IN 2018

Attachments: [CH2M HILL ENGINEERS, INC.](#)

C. 9 [2017-0695](#)**SALE OF SMALL PARCEL OF LAND - GEORGE'S MAJESTIC LOUNGE:**

A RESOLUTION TO AUTHORIZE THE SALE OF A SMALL PARCEL OF LAND SOUTH OF GEORGE'S MAJESTIC LOUNGE AND WEST OF THE RAILROAD TRACKS

Attachments: [SALE OF SMALL PARCEL OF LAND - GEORGE'S MAJESTIC LOUNGE](#)

D. City Council Agenda Session Presentations**D. 1** [2017-0635](#)

AGENDA SESSION PRESENTATION - 2017-2018 DRAINAGE IMPROVEMENTS PLAN

E. City Council Tour: Monday, December 4, 2017 4:30 PM**F. Announcements****G. Adjournment****NOTICE TO MEMBERS OF THE AUDIENCE**

All interested persons may appear and address the City Council on Unfinished Business, New Business, and Public Hearings at City Council meetings. If you wish to address the City Council on an agenda item, please wait for the Mayor or Chair to request public comment then queue behind the podium. When the Mayor or Chair recognizes you, approach the podium and give your name and address. Comments are to be addressed to the Mayor or Chair. The Mayor or Chair will direct your comments to the appropriate elected officials, staff, or others for response. Keep your comments respectful, brief, to the point, and relevant to the agenda item being considered. Each speaker from the public will be allowed one turn at the microphone for discussion of an agenda item.

Below is a portion of the Rules of Order and Procedure of the Fayetteville City Council pertaining to City Council meetings:

Agenda Additions: A new item which is requested to be added to the agenda at a City Council meeting should only be considered if it requires immediate City Council consideration and if the normal agenda setting process is not practical. The City Council may only place such new item on the City Council meeting's agenda by suspending the rules by two-thirds vote. Such agenda addition shall be heard prior to the Consent Agenda.

Consent Agenda: Consent Agenda items shall be read by the Mayor and voted upon as a group without discussion by the City Council. If an Alderman wishes to comment upon or discuss a Consent Agenda item, that item shall be removed and considered immediately after the Consent Agenda has been voted upon.

Unfinished Business and New Business:

Presentations by Staff and Applicants: Agenda items shall be introduced by the Mayor and, if an ordinance, read by the City Attorney. City staff shall then present a report. An agenda applicant (city contractor, rezoning or development applicant, etc.) may present its proposal only during this presentation period, but may be recalled by an alderman later to answer questions. City staff, City Council members, and applicants may use electronic visual aids in the City Council meeting as part of the presentation of the agenda item.

Public Comments: Public comment shall be allowed for all members of the audience on all items of old and new business and subjects of public hearings. A simple majority of the City Council members, present and voting, may authorize a representative of a Fayetteville citizens' group opposing the ordinance or resolution to present an electronic visual aid not to exceed five minutes, but no other electronic visual aid presentations will be allowed; however, the public may submit photos, petitions, etc. to be distributed to the City Council. If a member of the public wishes for the City Clerk to distribute materials to the City Council before its meeting, such materials should be supplied to the City Clerk's Office no later than 9:00 A.M. on the day of the City Council meeting. Any member of the public shall first state his or her name and address, followed by a concise statement of the person's position on the question under discussion. Repetitive comments should be avoided; this applies to comments made previously either to the City Council or to the Planning Commission when those Planning Commission minutes have been provided to the City Council. All remarks shall be addressed to the Mayor or the City Council as a whole and not to any particular member of the City Council. No person other than the City Council member and the person having the floor shall be permitted to enter into any discussions without permission of the Mayor. No questions shall be directed to a City Council member or city staff member except through the Mayor.

Courtesy and Respect: All members of the public, all city staff and elected officials shall accord the utmost courtesy and respect to each other at all times. All shall refrain from rude or derogatory remarks, reflections as to integrity, abusive comments and statements about motives or personalities. Any member of the public who violates these standards shall be ruled out of order by the Mayor, must immediately cease speaking and shall leave the podium.

Interpreters or Telecommunications Device for the Deaf (TDD), for hearing impaired are available for all City Council meetings, a 72-hour advance notice is required. For further information or to request an interpreter, please call 479-575-8330.

A copy of the complete City Council agenda is available on our website at www.fayetteville-ar.gov or in the office of the City Clerk, 113 W. Mountain, Fayetteville, Arkansas (479) 575-8323.

All cell phones must be silenced and may not be used within the City Council Chambers.

CityClerk

From: Mayor
Sent: Wednesday, November 29, 2017 7:40 AM
To: Jordan, Lioneld
Cc: Marr, Don; City_Clerk-old
Subject: FW: Issue on tonight's City Council Agenda

fyi

From: Darla Newman [mailto:dpnewman@sbcglobal.net]
Sent: Wednesday, November 29, 2017 6:53 AM
To: Gray, Adella <ward1_pos1@fayetteville-ar.gov>; Marsh, Sarah <ward1_pos2@fayetteville-ar.gov>; Mayor <Mayor@fayetteville-ar.gov>
Cc: Williams, Kit <kwilliams@fayetteville-ar.gov>; Pennington, Blake <bpennington@fayetteville-ar.gov>
Subject: Issue on tonight's City Council Agenda

I just read that an item on tonight's agenda is the approval of a contract with the Area Agency on Agency for funding the Senior Center. I strongly object to this funding without action taken to rectify the unjust firing of Cayla Wilson.

Cayla has been a passionate, dedicated, and overworked Director of the Center. As the word spread of her firing, many seniors are distressed.

I suggested that the contract be modified to include a provision that she be rehired, and that she cannot be fired without proof of wrongdoing supporting termination giving to the Mayor and signed off by him or his office. Rumor has it that the offense for which Cayla was fired has resulted in probation for other employees of the Agency, not termination.

I appreciate your consideration of this matter.

Darla Newman
1049 S Washington Ave, Fayetteville

CityClerk

From: Mayor
Sent: Wednesday, November 29, 2017 7:44 AM
To: Jordan, Lioneld
Cc: Marr, Don; City_Clerk-old
Subject: FW: Saving the City of Fayetteville money

fyi

From: Francis Meunier [mailto:sicnarf942@gmail.com]
Sent: Tuesday, November 28, 2017 4:01 PM
To: Mayor <Mayor@fayetteville-ar.gov>
Subject: Saving the City of Fayetteville money

My wife and I moved to Fayetteville 5 yrs ago and at 75 yrs old have been members of the Senior Center since then.

On weekends and holidays we would come to the center to help improve it. We power washed all the sidewalk and walls that had mold and mildew on them every yr. We built a ramp for the shed, refinished the benches in the front of building we had local high school students repaint all the 5 patio table and 20 chairs.

June and I also painted more than 75 window sills and frames and 1 picnic table.

Inside the building we count the money 2 days a week, order exercise equipment worth \$200 free every yr.

Why do we do all this? Because over time we watched Cayla Wilson work very hard as Center Director and we were inspired by her to do more.

I realize you may not be able to get involved in her termination but I want the city to know it is losing out on a great asset to Fayetteville and the Seniors

Sincerely Yours ,
Francis & June Meunier
346 N Drewrys Bluff Dr
Fayetteville Ar

CityClerk

From: Mayor
Sent: Wednesday, November 29, 2017 9:12 AM
To: Jordan, Lioneld
Cc: City_Clerk-old
Subject: FW: Senior Center/Cayla Wilson

fyi

-----Original Message-----

From: Jhonnie Taylor [mailto:megabyte@ipa.net]
Sent: Wednesday, November 29, 2017 9:09 AM
To: Mayor <Mayor@fayetteville-ar.gov>
Subject: Senior Center/Cayla Wilson

I wanted to express my support for Cayla Wilson. I was shocked that she was terminated last week. I have been going to the Senior Center for the past six years and have always been impressed with the leadership, especially during the years that Cayla has been in charge. She is such a hard worker and does an excellent job of meeting the seniors and making sure their needs are met.

I regularly attend the exercise classes and Cayla has worked hard to provide variety in the classes offered. I am amazed that other Senior Centers are run by the cities they are located in, but Fayetteville does not administer their own center. I don't think this is a good way to run the program.

I do hope that Cayla's termination can be reconsidered. We need people like her and she will be hard to replace.

Thank you for your time.

Jhonnie Taylor
479-521-8835

Council Member Adella Gray
Ward 1 Position 1

Council Member Sarah Marsh
Ward 1 Position 2

Council Member Mark Kinion
Ward 2 Position 1

Council Member Matthew Petty
Ward 2 Position 2



Mayor Lioneld Jordan
City Attorney Kit Williams
City Clerk Sondra E. Smith

Council Member Justin Tennant
Ward 3 Position 1

Council Member Sarah Bunch
Ward 3 Position 2

Council Member John La Tour
Ward 4 Position 1

Vacant
Ward 4 Position 2

**City of Fayetteville Arkansas
City Council Meeting
November 21, 2017**

A meeting of the Fayetteville City Council was held on November 21, 2017 at 5:30 p.m. in Room 219 of the City Administration Building located at 113 West Mountain Street, Fayetteville, Arkansas.

Mayor Jordan called the meeting to order.

PRESENT: Council Members Adella Gray, Sarah Marsh, Mark Kinion, Matthew Petty, Justin Tennant, John La Tour, Mayor Lioneld Jordan, City Attorney Kit Williams, City Clerk Sondra Smith, Staff, Press, and Audience.

Note: Council Member Alan Long resigned on November 18, 2017

Absent: Council Member Sarah Bunch

Council Member Justin Tennant arrived late.

Don Marr, Chief of Staff: Council Member Tennant is attempting to arrive at the meeting, but there is an accident on I-49. He will be here as soon as possible.

Pledge of Allegiance

Mayor's Announcements, Proclamations and Recognitions: None

City Council Meeting Presentations, Reports, and Discussion Items: None

Agenda Additions:

Mayor Jordan: We need to add a Ward 4, Position 2 Council Member replacement to the agenda.

City Attorney Kit Williams: This must be on our agenda according to state law.

Council Member Petty: Where on the agenda?

Mayor Jordan: I would like to put it as the last item after we finish all our business tonight.

Council Member Kinion moved to add the Ward 4, Position 2 Council Member replacement to the agenda. Council Member Marsh seconded the motion. Upon roll call the motion passed 6-0. Council Members Kinion, Petty, La Tour, Gray, and Marsh voting yes. Mayor Jordan voted yes. Council Members Bunch and Tennant were absent.

Mayor Jordan: Since there is a vacancy in Ward 4 Position 2, the Council has to make the decision of either appointing someone or putting it out for a Special Election.

Council Members Gray and Marsh stated they would like to appoint a replacement for the Ward 4 Position 2 Council Member vacancy.

Mayor Jordan: You would rather appoint instead of an election?

Council Member Gray: Yes.

Council Member La Tour spoke about his parents and their failing health. He stated his mother continued to vote even in poor health because she considered the vote important. He stated he can't support to appoint a representative for the people of Ward 4. He stated he knows there would be a cost incurred with a Special Election, but if there were only a few months left in the term, he could see where an appointment might be appropriate. He stated there's still more than 77% of the term left to fill. He believes it's immoral to take the vote away from the people.

Council Member Gray: I want to remind Council Member La Tour that on a couple of items like the Civil Rights and library, you were very much against the vote.

Council Member Tennant: I have an issue with appointing someone to longer than a one-year term. I've been on record against several Special Elections that we have had because I thought it may not be best use of the peoples' money. Do we know what the cost of this election would be?

City Clerk Sondra Smith: It would be anywhere from \$10,000 to \$30,000.

Council Member Tenant: My problem with having an appointment is it's well over 75% of a person's term. That is a long time for us to just appoint someone. I received a flood of correspondence from some people I've heard of and some I haven't. All of them may be really qualified good people, but to expect me to appoint someone in less than 24 hours based on an assumption is difficult. I don't know that we are in a huge hurry to do this. I thank Council Member Long for his service. Regardless of who wants to be seated next to Council Member La Tour for the next three years and two months, I don't feel comfortable appointing someone. It would simply

be a popularity contest and this position is more important than that. This should be left up to the people.

Nathan Allen stated he ran against Mr. Long last year for the Ward 4 Council Member position. He spoke in favor of a Special Election.

Andrew Miles, 1884 North Cate Drive spoke about having an interim for a period of time and then having a Special Election to elect someone to finish the term out.

Laura Phillips spoke in favor of an appointment.

Council Member Gray: We need the City Attorney to clarify what our options are according to the law. We have two options, correct?

City Attorney Kit Williams: Yes. I like the suggestion of Mr. Miles. He needs to talk to the legislature so we have that option. For other offices, such as the City Clerk and myself, the option would be that you would serve until the next General Election if you were appointed. I don't know why for Council Members they make it the entire remaining term. It's not a very wise law and it should be until the next General Election, but that isn't an option we have. One option is to appoint someone for the remainder of the term or to call a Special Election for the remainder of the term.

Jake Pezwick, Ward 4 spoke in favor of a Special Election.

Kyle Smith, 2801 West Dove Drive, Ward 4 spoke in favor of an appointment.

Nathan Eikenberry, Ward 4 spoke in favor of a Special Election.

Mayor Jordan: I have been on this Council for a while and this is the 5th time we have come to this sort of thing. I have seen one Special Election and three appointments.

Council Member Tennant: Do you recall the length of time left on those three appointments?

There was a discussion about the length of appointments based on memories from many years ago.

Council Member Gray stated that this was a unique situation. She requested City Attorney Williams to quote the law.

City Attorney Kit Williams: At this point, if it's under one year, then it's automatically up for an appointment. If it's more than one year, then it is your choice to elect by your votes or to call a Special Election. When I was on the Council in the 90's we only had two-year terms so we never had to worry about extended terms. We always had appointments when we had people that left. Those were never a three-year appointment.

Council Member Gray: Based on the history, I don't think that was ever a bad thing. I don't think an appointment tonight would be a bad thing. We have some people who have put their name out here and worked hard to make sure that we knew they were planning to run for Ward 4. They

have been preparing themselves by attending many Council Meetings as well as serving other capacities.

Council Member Kinion: Judging from the amount of interest we have had in this, not only are we looking at the election, but most likely a run off too. It would be the cost of two elections and could bring it up to the \$30,000. People voted all of us to be here and there is a trust for us to do the best we can. Being immoral isn't a valid characterization of anyone up here.

Council Member La Tour: I'm not going to defend my position on the Civil Rights and the library, Council Member Gray. It wouldn't be productive. We spent \$300,000 with the Kessler Group to revamp our Recycling Program. I believe spending 1/10 of that to guarantee the people of Ward 4 their right to vote has to be more compelling than how we throw away our trash. I can't abide taking the vote away from any voter in Fayetteville. I request we table it for two weeks.

City Attorney Kit Williams stated it couldn't be tabled. He spoke briefly about the state statute.

Council Member La Tour reiterated his request to take it to a public vote.

Council Member Kinion spoke briefly about Enterprise Funds and General Funds.

Council Member Petty stated he didn't care about the cost of the election because it would be worth it. He spoke of his concerns about absences at the City Council meetings and sub-committees' due to a lack of a quorum. He stated there is a cost either way the City Council decides. He stated he could justify making an appointment if there was someone sufficiently qualified. He requested to know if a consensus was reached to make an appointment and then after listening from interested parties, if there wasn't someone qualified, would they be able to make the other decision for a Special Election?

City Attorney Kit Williams: Yes. If you vote in favor to appoint and then you don't believe there is someone qualified, then you could move to reconsider. It has to be someone that voted with the side that won, to make the motion.

Council Member Petty: With that in my mind, I can support hearing from people for the appointment. I resent that so many public decisions are reduced to popularity contest and not qualifications. I will be making every effort tonight to assess qualifications to the exclusion of anything else.

Council Member Marsh: I reviewed all the letters of intention we've received. I have identified several qualified applicants. I agree with Council Member Petty that qualifications are key. Things I will consider are community involvement, community engagement, and ideological similar to Alan Long so we are consistent with the will and intention of the voters. We are getting ready to interview people for boards and committee openings. Alan was on our Nominating Committee, Environmental Action Committee, and Transportation Committee. We need Ward 4 represented.

Council Member Tennant: I believe this just happened in Bentonville. They voted for a Special Election.

City Attorney Kit Williams: They are covered by the same statute as us. It was up to their City Council to determine whether they wanted to appoint or call for a Special Election.

Council Member Tennant reiterated that he believes there should be a Special Election. He stated in his career he has never hired somebody from beginning to end of a process in one day, especially with just a letter of interest.

Council Member Marsh: Alan Long was our Vice Mayor and that position is currently unfilled.

City Clerk Sondra Smith: Mayor, that will be on the next agenda.

Mayor Jordan: Okay.

Council Member La Tour: I would be glad to fulfill Alan's place on the Transportation Committee. I would be glad to fill in on any committee appointment he had. I will do my best to fulfill the duties of the committees.

Council Member Petty: Thank you. I have no doubt you would do that. I wouldn't have any concern with that specifically to you. I don't believe any Council Member could fulfill the duties of serving on all these committees and do it with the amount of attention it demands.

Mayor Jordan: However this goes, I have confidence in this Council to make the right decision.

A discussion followed about what a yes or no vote would mean.

Council Member Gray moved to appoint a replacement for the Ward 4, Position 2 Council Member vacancy. Council Member Marsh seconded the motion. Upon roll call the motion passed 4-2. Council Members Kinion, Petty, Gray, and Marsh voting yes. Council Members Tennant and La Tour voting no. Council Member Bunch was absent.

Mayor Jordan: We need to hear from everybody that is interested in the position. We will give everybody five minutes to comment.

A discussion followed about the way the process would be conducted.

Kyle Smith, 2801 West Dove Drive stated his interest in serving the Ward 4 Position 2 vacancy.

Council Members and Mayor Jordan asked questions and the candidate answered.

JL Jennings, 4198 West Bradstreet Lane stated his interest in serving the Ward 4 Position 2 vacancy.

Council Members and Mayor Jordan asked questions and the candidate answered.

Andrew Miles, 1884 North Caton Drive stated his interest in serving the Ward 4 Position 2 vacancy.

Council Members and Mayor Jordan asked questions and the candidate answered.

Spencer T. Brown, 4446 West Lofty Wood Drive stated his interest in serving the Ward 4 Position 2 vacancy.

Council Members and Mayor Jordan asked questions and the candidate answered.

Mike Emery, 2598 North Indian Oaks stated his interest in serving the Ward 4 Position 2 vacancy.

Council Members and Mayor Jordan asked questions and the candidate answered.

Teresa Turk, 1408 West Cleveland stated her interest in serving the Ward 4 Position 2 vacancy.

Council Members and Mayor Jordan asked questions and the candidate answered.

Brian Isham, 4209 West Marlo Lane stated he is in favor of a Special Election and is interested in serving the Ward 4 Position 2 vacancy.

Council Members and Mayor Jordan asked questions and the candidate answered.

There was a discussion about selecting a Council Member for the Ward 4 Position 2 vacancy.

Council Member Marsh stated her reasons she believed Kyle Smith would be the best decision for the Ward 4 Position 2 vacancy.

Council Member Gray stated her reasons she believed Kyle Smith would be the best decision for the Ward 4 Position 2 vacancy.

Council Member Tennant asked about the procedural process if multiple names are nominated and none get his vote?

City Attorney Kit Williams gave a brief explanation of the proceedings.

Council Member Petty spoke about all the worthy candidates and their qualifications. He stated he hopes that anybody who is not chosen, will not shy away from a campaign in the future. He spoke about Kyle Smith's qualifications.

A discussion followed about instant run-off voting.

Council Member Kinion stated many of the candidates had been interviewed in the past by the Nominating Committee for Fayetteville Boards and Committees. He believes that is beneficial in seeing how they perform once they are selected for a committee. He spoke about Kyle Smith's qualifications.

Council Member Marsh moved to select Kyle Smith for the Ward 4, Position 2 Council Member vacancy. Council Member Gray seconded the motion. Upon roll call the motion passed 5-2. Council Members Kinion, Petty, Gray, and Marsh voting yes. Mayor Jordan voted yes. Council Members Tennant and La Tour voting no. Council Member Bunch was absent.

Mayor Jordan stated his reason for voting yes on the selection of Kyle Smith.

City Attorney Kit Williams read the resolution.

Council Member Kinion moved to approve the resolution to elect Kyle Smith for the Ward 4, Position 2 Council Member vacancy. Council Member Marsh seconded the motion. Upon roll call the motion passed 5-2. Council Members Kinion, Petty, Gray, and Marsh voting yes. Mayor Jordan voted yes. Council Members Tennant and La Tour voting no. Council Member Bunch was absent.

Mayor Jordan thanked the Council for their work.

Resolution 246-17 as recorded in the office of the City Clerk

Consent:

Approval of the November 7, 2017 City Council Meeting Minutes.

Approved

Paymentus Corporation: A resolution to approve a contract with Paymentus Corporation in the amount of \$5,000.00 expanding the scope of services to add a field displaying customer past due balances in the online utility billing system.

Resolution 239-17 as recorded in the office of the City Clerk

2017 Bulletproof Vest Partnership Program: A resolution to authorize acceptance of a fifty percent (50%) matching grant award from the 2017 Bulletproof Vest Partnership Program in the amount of \$6,070.00 for the replacement of body armor vests for Fayetteville Police Officers, and to approve a budget adjustment.

Resolution 240-17 as recorded in the office of the City Clerk

Federal and State Law Enforcement Revenue: A resolution to approve a budget adjustment in the total amount of \$81,516.00 recognizing revenue associated with federal and state law enforcement forfeitures and insurance proceeds from a wrecked vehicle.

Resolution 241-17 as recorded in the office of the City Clerk

Fayetteville Police Department Policies: A resolution to approve Fayetteville Police Department Policies on Grooming and Uniform Requirements and Body-Worn Cameras.

Resolution 242-17 as recorded in the office of the City Clerk

Bid #17-65 Nabholz Environmental Services, LLC: A resolution to award Bid #17-65 and authorize a contract with Nabholz Environmental Services, LLC in the amount of \$257,802.00 for asbestos abatement services at the old city hospital as part of the Fayetteville Public Library Expansion Project, and to approve a project contingency in the amount of \$40,000.00.

Resolution 243-17 as recorded in the office of the City Clerk

Community Access Television, Inc. d/b/a Your Media: A resolution to approve a renewal of the contract with Community Access Television, Inc. d/b/a Your Media in the amount of \$161,580.00 for the provision of public access television services and the operation of the public access television channel through 2018, contingent on approval of the 2018 Annual City Budget and Work Program.

Resolution 244-17 as recorded in the office of the City Clerk

Council Member Marsh moved to accept the Consent Agenda as read. Council Member La Tour seconded the motion. Upon roll call the motion passed 5-0. Council Members Kinion, Petty, La Tour, Gray, and Marsh voting yes. Council Members Bunch and Tennant were absent.

Unfinished Business:

Small Cell Communications Facilities: An ordinance to enact §110.03 **Small Cell Facilities and Networks** into Chapter 110: **Telecommunication Franchise, Billposting, and Small Cell Facilities and Networks**. At the November 7, 2017 City Council Meeting this ordinance was tabled to November 21, 2017 City Council Meeting and left on the third reading. At the October 17, 2017 City Council Meeting this ordinance was left on the second reading. At the October 3, 2017 City Council Meeting this ordinance was left on the first reading.

Assistant City Attorney Blake Pennington gave a brief description of the ordinance. He stated that administrations final recommendation of Exhibit A contains six changes on what Council adopted two weeks ago. He stated the only significant change between what Council saw last Tuesday and tonight is the removal of the requirement for a non-franchise holder to provide four pairs of dark fiber for public purpose. He believes that is questionable legal territory by requiring that of some providers and not others. He believes it needs to be put aside and studied for potential changes in the future.

Council Member La Tour: This week I had a conversation with representatives from the industry. I understand in conversations with the city, they were told our administrator will be reasonable in his efforts. If the administrator is reasonable in his efforts, when we say they must

put forth all effort to achieve stealth or camouflage, it seems like all is very exhaustive. Do you mean commercially reasonable practices?

Assistant City Attorney Blake Pennington: Probably.

City Attorney Kit Williams: There is presumption of reasonableness in every contract that is read into it by the courts. If you are concerned about all, maybe you could insert it in one place. Normally, contracts have a presumption of reasonableness throughout the contract and that's the way it would be interpreted by the courts.

Council Member La Tour: I'm trying to head off a court challenge, which is expensive and time consuming. I was trying to tighten up the language to put one paragraph at the beginning that says, all efforts shall be reasonable on both sides. That is a presumption, but why not state it overtly and avoid the controversy. Would you agree that when we say, all effort, we mean all reasonable effort?

Assistant City Attorney Blake Pennington: Sure. I think the administrator would be reasonable in applying this ordinance. If a provider thought it was unreasonable, then the provider can appeal to this body.

A discussion followed about reasonable effort.

John Scott, Ward 3 citizen stated his appreciation for the extra time in allowing the providers to make technical comments. He asked for the word, reasonable, to be added in four areas of the ordinance.

A discussion followed about the exact place the word reasonable is being proposed.

John Scott: I don't believe it substantively changes the intent of the act.

City Attorney Kit Williams: Blake has been working hard on this and he's done a very good job. I agree with Mr. Scott. Our office doesn't have any objections to adding, reasonably. That is the way it is going to be interpreted. We require that all our code sections be reasonably interpreted.

Council Member La Tour: There is no substantive change. Businesses need predictability.

Mayor Jordan: Thank you to the staff and the providers for their work on this. I'm pleased with the ordinance.

Council Member La Tour moved to amend to Exhibit A and reasonably added to the ordinance. Council Member Gray seconded the motion. Upon roll call the motion passed 5-0. Council Members Kinion, Petty, La Tour, Gray, and Marsh voting yes. Council Members Bunch and Tennant were absent.

Mayor Jordan asked shall the ordinance pass. Upon roll call the ordinance passed 5-0. Council Members Kinion, Petty, La Tour, Gray, and Marsh voting yes. Council Members Bunch and Tennant were absent.

Ordinance 6009 as Recorded in the office of the City Clerk

VIP Club: An ordinance to approve the application of Sami Ammar Haddaji, on behalf of VIP Club for a permit to operate as a private club in the City of Fayetteville at 326 North West Avenue #6. *At the November 7, 2017 City Council Meeting this ordinance was left on the first reading.*

City Attorney Kit Williams stated he handed out an amended ordinance that Police Chief Tabor worked out with Mr. Mourton, who is the attorney for Mr. Haddaji. He stated there is a new Section 2 that places some conditions upon the approval.

Mayor Jordan requested he read the ordinance for clarification.

City Attorney Kit Williams read the ordinance.

Kenneth Mourton, Applicant's Attorney stated Mr. Haddaji intends to close his establishment at 1:30 a.m.

Greg Tabor, Chief of Police: We met with the applicant and his attorney. They were receptive to the 1:30 a.m. closing time and agreed for employees to attend training at the Police Department for fraudulent underage ID class. We have no objections to this ordinance.

Council Member Marsh: Do we require other bar operators to take the same ID class?

Greg Tabor, Chief of Police: This is the first time we have ever asked for that requirement. Most bars in town attend the training, but there is no requirement. This is a new state law and only the second one of these brought forward. We are working on getting a more formal process.

Council Member Marsh: I don't recall us having this requirement in the last private club that we approved recently.

Greg Tabor, Chief of Police: That is correct.

City Attorney Kit Williams: It seems like a good idea. I imagine you might be seeing that provision in the rest of the ordinances that come through.

Council Member Gray moved to amend the previous ordinance to the one read. **Council Member Kinion** seconded the motion. Upon roll call the motion passed 5-0. **Council Members Kinion, Petty, La Tour, Gray, and Marsh** voting yes. **Council Members Bunch and Tennant** were absent.

Council Member Gray moved to suspend the rules and go to the second reading. **Council Member Kinion** seconded the motion. Upon roll call the motion passed 6-0. **Council Members Kinion, Petty, La Tour, Gray, and Marsh** voting yes. **Mayor Jordan** voted yes. **Council Members Bunch and Tennant** were absent.

City Attorney Kit Williams read the ordinance.

Council Member Gray moved to suspend the rules and go to the third and final reading. Council Member Kinion seconded the motion. Upon roll call the motion passed 6-0. Council Members Kinion, Petty, La Tour, Gray, and Marsh voting yes. Mayor Jordan voted yes. Council Members Bunch and Tennant were absent.

City Attorney Kit Williams read the ordinance.

Mayor Jordan thanked everyone involved for their work on the ordinance.

Mayor Jordan asked shall the ordinance pass. Upon roll call the ordinance passed 5-0. Council Members Kinion, Petty, La Tour, Gray, and Marsh voting yes. Council Members Bunch and Tennant were absent.

Ordinance 6010 as Recorded in the office of the City Clerk

New Business:

University of Arkansas Joint Lease Agreement Termination: A resolution to terminate the Joint Lease Agreement between the City of Fayetteville and the Board of Trustees of the University of Arkansas for the City's use of 27.5 acres on Lewis Avenue and the University's use of 10.02 acres on Razorback Road, contingent upon approval by the Board of Trustees of the University of Arkansas.

Don Marr, Chief of Staff: The Town & Gown Advisory Committee discussed this item at their meeting. There was a recommendation by the committee for the city to not terminate its lease early and allow interested stakeholders a longer time. The recommendation was discussed with Mayor Jordan. He has directed our staff to request this item to be tabled indefinitely and allow the lease to run to its expiration date of June 30, 2018.

Mayor Jordan: Maybe something can be worked out. When I was on the Council years ago, we talked about the lease being up around 2018. We were talking about a new Regional Park because the University wanted the property back. The University has sent us notice they were not going to renew our lease. Is that correct?

Don Marr, Chief of Staff: Yes, Mayor.

Mayor Jordan: We proceeded to build the Regional Park. I am very supportive of preserving all the green space I can, but there's also so much money I have to work with. We built the new Regional Park to move the soccer fields out there. Now, this piece of property is available, but right now I don't see the finances to where we can buy another piece of property. This isn't about whether we buy a piece of property, it's whether the lease is terminated early. By tabling, it will allow this to go until June 2018.

Council Member La Tour: How much does this lease cost us per year?

Don Marr, Chief of Staff: There is no cost for the actual lease period. The cost associated with the property is maintaining the property.

Matthew Ramsey, Town & Gown Advisory Committee member stated the six additional months will give concerned stakeholders more time to cultivate relationships and talk about potential solutions that would be agreeable to all parties.

Will Dockery stated he supported tabling the item indefinitely to allow something to be worked out.

Dana Bassi, 1649 North Timber Ridge Court spoke in favor of tabling the item.

Ron Chioldi, 1535 West Hefley St. spoke about sidewalk and other needs in the area.

Council Member Kinion moved to table the resolution indefinitely. Council Member Marsh seconded the motion. Upon roll call the motion passed 5-0. Council Members Kinion, Petty, La Tour, Gray, and Marsh voting yes. Council Members Bunch and Tennant were absent.

This resolution was Tabled Indefinitely.

Amend Telecommunications Board: An ordinance to amend Article IX **Telecommunications Board** in Chapter 33 **Departments, Boards, Commissions, and Authorities** of the City Code to reduce the frequency of meetings from monthly to bi-monthly.

City Attorney Kit Williams read the ordinance.

Doug Bankston, Director of Media Services gave a brief description of the ordinance.

Council Member Kinion moved to suspend the rules and go to the second reading. Council Member Marsh seconded the motion. Upon roll call the motion passed 6-0. Council Members Kinion, Petty, La Tour, Gray, and Marsh voting yes. Mayor Jordan voted yes. Council Members Bunch and Tennant were absent.

City Attorney Kit Williams read the ordinance.

Council Member Kinion moved to suspend the rules and go to the third and final reading. Council Member Marsh seconded the motion. Upon roll call the motion passed 6-0. Council Members Kinion, Petty, La Tour, Gray, and Marsh voting yes. Mayor Jordan voted yes. Council Members Bunch and Tennant were absent.

City Attorney Kit Williams read the ordinance.

Mayor Jordan asked shall the ordinance pass. Upon roll call the ordinance passed 5-0. Council Members Kinion, Petty, La Tour, Gray, and Marsh voting yes. Council Members Bunch and Tennant were absent.

Ordinance 6011 as Recorded in the office of the City Clerk

RZN 17-5950 (4847 W. Wedington/Leisure Homes Corp.): An ordinance to rezone that property described in rezoning petition RZN 17-5950 for approximately 1.83 acres located at 4847 West Wedington drive from RSF-4, Residential Single Family, 4 units per acre and NC, Neighborhood Conservation to RSF-18, Residential Single-Family, 18 units per acre, for 1.27 acres and NC, Neighborhood Conservation for 0.56 acres.

City Attorney Kit Williams read the ordinance.

Andrew Garner, City Planning Director gave a brief description of the ordinance. He stated staff is recommending approval. The Planning Commission recommends approval.

Council Member La Tour: It seems reasonable to rezone.

Ferdi Fourie, Civil Design Engineers: We have moved further with the design and established a little bit better layout that would require two more areas to be rezoned Neighborhood Conservation. Is it possible to add those to this request?

Andrew Garner: If they are adding additional land, we would need to renotify the neighbors adjacent to the areas.

Ferdi Fourie: Can we do that and then come back to City Council?

Mayor Jordan: Yes, but we can't do it tonight.

Ferdi Fourie: Can we table it and then come back after we put out the notifications?

Mayor Jordan: You can go ahead and pass what you have before us tonight and then come back with the other one later.

Ferdi Fourie: Can I add to it?

Don Marr, Chief of Staff: You can't add to this. Either you would approve tonight and then bring your additional property as a second approval or you need to go back to the very beginning with renotification and Planning Commission for all of it together.

A discussion followed about rezoning procedures.

Council Member Marsh moved to suspend the rules and go to the second reading. Council Member La Tour seconded the motion. Upon roll call the motion passed 6-0. Council

Members Kinion, Petty, La Tour, Gray, and Marsh voting yes. Mayor Jordan voted yes. Council Members Bunch and Tennant were absent.

City Attorney Kit Williams read the ordinance.

Council Member La Tour moved to suspend the rules and go to the third and final reading. Council Member Marsh seconded the motion. Upon roll call the motion passed 6-0. Council Members Kinion, Petty, La Tour, Gray, and Marsh voting yes. Mayor Jordan voted yes. Council Members Bunch and Tennant were absent.

City Attorney Kit Williams read the ordinance.

Mayor Jordan asked shall the ordinance pass. Upon roll call the ordinance passed 5-0. Council Members Kinion, Petty, La Tour, Gray, and Marsh voting yes. Council Members Bunch and Tennant were absent.

Ordinance 6012 as Recorded in the office of the City Clerk

VAC 17-5960 (North of Barton Ave. & Huntsville Rd./Meehan): An ordinance to approve VAC 17-5960 for property located East of Barton Avenue and North of Huntsville Road to vacate a portion of a utility easement.

City Attorney Kit Williams read the ordinance.

Andrew Garner, City Planning Director gave a brief description of the ordinance. He stated all utility companies recommend approval. The Planning Commission and staff recommend approval.

Council Member Gray moved to suspend the rules and go to the second reading. Council Member Marsh seconded the motion. Upon roll call the motion passed 6-0. Council Members Kinion, Petty, La Tour, Gray, and Marsh voting yes. Mayor Jordan voted yes. Council Members Bunch and Tennant were absent.

City Attorney Kit Williams read the ordinance.

Council Member Marsh moved to suspend the rules and go to the third and final reading. Council Member Gray seconded the motion. Upon roll call the motion passed 6-0. Council Members Kinion, Petty, La Tour, Gray, and Marsh voting yes. Mayor Jordan voted yes. Council Members Bunch and Tennant were absent.

City Attorney Kit Williams read the ordinance.

Mayor Jordan asked shall the ordinance pass. Upon roll call the ordinance passed 5-0. Council Members Kinion, Petty, La Tour, Gray, and Marsh voting yes. Council Members Bunch and Tennant were absent.

Ordinance 6013 as Recorded in the office of the City Clerk

VAC 17-5963 (Rock St. between West Ave. and School St./Rock St. Row): An ordinance to approve VAC 17-5963 for property located at Rock Street between West Avenue and School Street to vacate a portion of the Rock Street right-of-way.

City Attorney Kit Williams read the ordinance.

Andrew Garner, City Planning Director gave a brief description of the ordinance. He stated all utility companies recommend approval. The Planning Commission recommends approval with an alley, but staff does not recommend an alley.

City Attorney Kit Williams: On number six, which doesn't require the construction, but requires dedication of minimum right-of-way for an alley is what came from the Planning Commission and staff doesn't recommend that.

Mayor Jordan: Would we strike number six?

Andrew Garner: We recommend instead of striking it, you modify it to say that pedestrian and cyclist connection be provided between School and West with the development of the library. We recommended that to the Planning Commission.

Council Member Petty: If that was your original suggestion, can you contextualize why the Planning Commission modified it?

Andrew Garner: The Planning Commission was concerned it would create a super block. You would have two long stretches. I believe that was an attempt to mitigate the traffic speeds along here and create more opportunities for vehicles to go through there.

David Johnson, Executive Director of Fayetteville Public Library stated he supports the city's recommendations.

Council Member Marsh: If there's not going to be an alley way, how would waste and recycling, as well as general services be handled?

David Johnson: We are still in the preliminary design phase. We have a service entry where a portion of Rock would remain open off West. It would allow access into our current loading dock.

Council Member Marsh: It is likely there still would be some sort of service alley, but not something open to the public?

David Johnson: Correct.

Council Member Petty: I support keeping the Planning Commission recommendations the same. If there's a concern or constructability issue whenever plans move to the next detailed phase, then

I'm open to revisiting the issue. When we say alley, we mean something very specifically in our street standards. I am not concerned at all with you building an alley to the standards we currently have on the books. The standard alley is meant to serve a different purpose. The right-of-way is what's important.

A discussion followed about leaving the ordinance as written.

Council Member Kinion: They will have the opportunity to design for safety as they move along.

Council Member Marsh moved to suspend the rules and go to the second reading. Council Member Kinion seconded the motion. Upon roll call the motion passed 6-0. Council Members Kinion, Petty, Tennant, La Tour, Gray, and Marsh voting yes. Council Member Bunch was absent.

City Attorney Kit Williams read the ordinance.

Council Member Gray moved to suspend the rules and go to the third and final reading. Council Member Marsh seconded the motion. Upon roll call the motion passed 6-0. Council Members Kinion, Petty, Tennant, La Tour, Gray, and Marsh voting yes. Council Member Bunch was absent.

City Attorney Kit Williams read the ordinance.

Mayor Jordan asked shall the ordinance pass. Upon roll call the ordinance passed 6-0. Council Members Kinion, Petty, Tennant, La Tour, Gray, and Marsh voting yes. Council Member Bunch was absent.

Ordinance 6014 as Recorded in the office of the City Clerk

Chapter 151 and 161 UDC Revisions: An ordinance to amend the Unified Development Code to change building height restriction measurements from feet to stories in Chapter 161 and to amend §151.01 **Definitions** to define "Story".

City Attorney Kit Williams read the ordinance.

Garner Stoll, Development Services Director gave a brief description of the ordinance. The Planning Commission and staff recommends approval.

Council Member La Tour: Would you say most developers in Northwest Arkansas would view this as a positive change?

Garner Stoll: I believe after they gain some experience with it, they will support it. We haven't heard any negative feedback.

Council Member La Tour: We need to balance our UDC changes. We want to keep Fayetteville beautiful and have design standards, but we don't want to run development up to Benton County.

Garner Stoll: Absolutely.

Council Member Petty: I couldn't be more supportive of this. This is one of the few kinds of policy changes that can be made that's good for everybody. Especially the tendency for building projects to bring habitable space all the way up to the height limit when it's defined in terms of feet, which incentivizes certain roof forms. When you are talking to a bank, the city or an architect, the same terms can be defined differently by every single group. Building height is one of those examples often defined differently. This ordinance references the International Building Code, which is adopted everywhere and enforced nearly everywhere in the country.

Garner Stoll: Measuring building height is problematic, if you measure it in feet. In your ordinance, you have to establish what your baseline is for measuring vertical space from the ground. It can get very complicated and this is much simpler.

Council Member Marsh: I have advocated for this change for years. This means more quality buildings. It will allow for taller spaces, instead of the eight-foot floor heights. You will get greater natural light penetration into the building. You get an opportunity for heat to rise. This is an environmental win. It adds visual interest to our public spaces.

Council Member Kinion moved to suspend the rules and go to the second reading. Council Member Marsh seconded the motion. Upon roll call the motion passed 6-0. Council Members Kinion, Petty, Tennant, La Tour, Gray, and Marsh voting yes. Council Member Bunch was absent.

City Attorney Kit Williams read the ordinance.

Council Member Kinion moved to suspend the rules and go to the third and final reading. Council Member Marsh seconded the motion. Upon roll call the motion passed 6-0. Council Members Kinion, Petty, Tennant, La Tour, Gray, and Marsh voting yes. Council Member Bunch was absent.

City Attorney Kit Williams read the ordinance.

Mayor Jordan: This is a good ordinance change. Thank you, staff for your work on this.

Mayor Jordan asked shall the ordinance pass. Upon roll call the ordinance passed 6-0. Council Members Kinion, Petty, Tennant, La Tour, Gray, and Marsh voting yes. Council Member Bunch was absent.

Ordinance 6015 as Recorded in the office of the City Clerk

Rezone College Avenue: An ordinance to rezone all parcels within or near College Avenue as shown on Exhibit C of the Planning Department's agenda memo comprising about 24.62 acres.

City Attorney Kit Williams read the ordinance.

Garner Stoll, Development Services Director gave a brief description of the ordinance. He stated this is an important section and street. He stated it has received a lot of review. He stated in order to make sure everybody was aware of this item being considered by Council, they re-notified the adjacent property owners. He spoke about the vision of College Avenue.

Council Member Marsh: Was there any discussion about removing Use Unit 18, drive throughs and fueling stations from this as a by right and moving that to a conditional use?

Garner Stoll: There has been some discussion in the last two or three weeks about doing that.

Andrew Garner: There was one Planning Commissioner mentioning that. When the Commission talked about this particular corridor, there was not a consensus other than one Commissioner thought about removing the drive throughs. One of the main things was realizing that the retail use and existing zoning allows drive throughs and that is an expectation on this portion of College.

Mayor Jordan: They did not remove it?

Andrew Garner: That's correct. They did not feel like it needed to be removed.

Garner Stoll: As this corridor evolves and matures, there's going to be less demand for the automobile single story buildings and uses. Whether those uses should be eliminated right now is a policy decision for the Council. The economics of this corridor, if it's successful, will move away from those uses.

Council Member Marsh: The other concern I had was both of the form base zoning districts that were recommended have build to lines of 10 to 25 feet. It would prohibit us from doing zero lot line build we see along Dickson Street or on Block Street. Why are we allowing buildings to set back up to 25 feet in this proposal?

Garner Stoll: Both of those districts were drafted that way. Those are the requirements in the present districts. They weren't crafted for this particular corridor. In other communities where tall buildings of four stories or higher were placed on similar corridors, they ended up being too tight.

Mayor Jordan: I'm not sure I want to pass these tonight. I want to mull these around.

Council Member Petty: I don't think we should pass this tonight, especially since we have a couple of absences. This is in Ward 2, but anytime you talk about Downtown or College Avenue, these are places owned a little bit by every person in the community, regardless of where you live. I agree with Council Member Marsh in regard to the questions about some of the more auto oriented uses. I understand staff's concerns that it would create some non-conforming buildings in this area. I don't believe that is much of a problem. I don't think allowing those uses by right

without any oversight is a wise move that is in alignment with the vision that has been cast. Shifting those uses, including some of the other auto oriented uses that we would look at in these two districts to conditional uses instead of by right uses is a wise move that would bring that more into alignment while allowing businesses here to have an avenue for expansion and allowing prospective businesses that might fall in those categories. I'm a little apprehensive about the recommendation from staff that residential uses be limited to three stories, regardless of the total numbers of stories of the building. The Planning Commission recommended unanimously against it. We've talked about the need for public transit. More than 60% of residents in Northwest Arkansas think that should be our top priority. I expect the proportion of Fayetteville residents who believe it should be a high priority for us is even greater. As the number of households in the area rises, the operational efficiency of transit goes up to the point where it becomes viable and productive. If we are looking at any area of town that should be transit ready, this is one of those areas. I'm concerned about the long-term implications of the limitation as recommended by staff for that reason. I'm concerned about housing affordability. More people want to live here than we have households for. Providing diverse housing options for a diversity of incomes is the only way to solve the looming crisis. I fear this limitation will inhibit our ability to address that. I understand this is a genuine attempt to address the concerns that have been expressed by the neighbors. Some of those concerns have been rooted in an argument that expresses a fear of the sort of people who will live in these buildings if we allow them to be constructed. That is an argument that treads dangerously close and even crosses a line with respect to what is proper and appropriate to consider when we are making these decisions.

Don Marr, Chief of Staff: It is staffs' belief that we have had 13 public meetings and in those meetings this discussion of changing the use unit has not been a prevalent acknowledged topic with all the stakeholders that have been involved in this process. In some ways, it's been more at the committee levels. We don't think it has had the outreach publicly to make sure people are aware of it. We remember a mayoral campaign when Mayor Jordan ran and people made the accusations of doing away with uses. It had people feeling like we were trying to put them out of business, simply because we were making a non-conforming use, even though they would be allowed to be sustained. We need to make sure that the people who are going to be impacted by the changes, from a non-conforming use perspective, don't feel like they are being blindsided because we've done the public outreach steps needed to make them aware and understand why. A positive of this district is that these uses don't exist there today. The staff is supportive of talking about it within this boundary. We think it should be an open and transparent public process. The reason staff has picked the limit of three residential stories is not based on a bias to any group or student housing. There is a reality that we have neighborhoods concerned about their impact. It's our experience that fear of the unknown kills ideas long before they get the chance to make it on the ground. We are talking about an area that has been defined as a healthy corridor to be developed. We need a successful visual process. The pictures shown don't show five and seven story buildings, they are showing two and three stories in most cases. We get stuck on these items of the perfect versus the pilot. If most of us looked at the economics of this, even if they were all residential three-story buildings, it's still in keeping with the 2025 Plan and the original discussion with the public. As staff, we are concerned about perception and transparency.

Council Member Marsh: What disappoints me about this proposal is that I was hoping we were going to get more tools and that we were going to have new zoning designations that can help us

address issues in our city with a greater level of granularity. Instead we are using the same tools over and over again. I don't feel like they're the best fit to create this walkable vital urban revitalized space we are seeking. Most of what we are seeing the proposal to rezone, it's Community Services, which allows up to five stories. Urban Thoroughfare says that it's predominately an auto oriented type of development. It can go up to six stories and allow a setback of up to 25 feet, which is parking spaces in front of the building and that is not what we desire here. I have issues with the three-story limit on residential. We are over 60% rental in this city and over 75% of households have no children present. We have a growing number of senior citizens. It would be great to take an elevator up to an apartment that was within walking distance of a grocery store. That's the type of city I thought we were trying to build. The proposal on the table falls short of that. I hope we hold the item tonight.

Council Member Kinion: We've been discussing this a long time and received a lot of input from the neighborhood. One of the concerns is the preservation of the current integrity and the heritage of the neighborhoods that are connected between Wilson Park and the Washington Willow Historic District. The experience that tall high-density buildings can be, not inviting to pedestrian right-of-way's, but they can be dividing within a neighborhood. We have to look at the topography because it's not level. People are not going to utilize this as a main street, downtown square pedestrian right-of-way because of the topography. The recommendation of the three stories doesn't say a building can't be more than three stories. It says it can be mixed use with a maximum of three stories of residential. You could still have retail, restaurant, or office. We have to look at connecting the historic value of these two beautiful neighborhoods and not having a line of division between the two. We aren't prohibiting density to the point that it's going to be prohibitive of transportation development.

Garner Stoll: The build to line is from 10 to 25 feet. Both districts prohibit parking in that space. They would have to landscape it and create plazas.

This item was left on the first reading.

Amend §166.21 Downtown Design Overlay District: An ordinance to amend §166.21 **Downtown Design Overlay District** by amending the applicability section to include College Avenue Overlay District and to enact §166.26 **College Avenue Overlay District**.

City Attorney Kit Williams read the ordinance.

This item was left on the first reading.

2018 Annual Budget and Work Program: A resolution to adopt the 2018 Annual Budget and Work Program.

Paul Becker, Chief Financial Officer gave a brief description of the resolution. He spoke about an article that was in the newspaper about the library budget. He clarified some confusion of the

article. He stated we are not taking anything that the voter voted for in construction and diverting it any other way.

Council Member La Tour: You are complying with the wishes of the voters?

Paul Becker: Correct.

Council Member La Tour: You consider that to be very important?

Paul Becker: Absolutely.

Mayor Jordan stated his appreciation for everybody that worked on the budget. He believes the most important job done as an elected official is protecting the taxpayers' money.

Council Member Gray moved to approve the resolution. Council Member Marsh seconded the motion. Upon roll call the resolution passed 6-0. Council Members Kinion, Petty, Tennant, La Tour, Gray, and Marsh voting yes. Council Member Bunch was absent.

Resolution 245-17 as recorded in the office of the City Clerk

Announcements:

Don Marr, Chief of Staff: City offices will be closed on November 23rd and November 24th for the Thanksgiving holiday.

City Council Agenda Session Presentations: None

City Council Tour: None

Adjournment: 9:43 p.m.

Lioneld Jordan, Mayor

Sondra E. Smith, City Clerk Treasurer

*Handed out at the Council Meeting
12-05-17*

CONTRACTOR:
BUDGET PERIOD:
COUNTY:

AREA AGENCY ON A
July 1, 2017 through J
WASHINGTON

FAYETTEVILLE
SAC

LINE ITEM CASH COST:

Salaries	\$ 253,542
Fringe	\$ 44,871
FICA/Medicare Tax	\$ -
ST Unemployment Tax	\$ -
Workers Compensation	\$ -
Disability Insurance	\$ -
Health/Dental/Life Ins.	\$ -
Retirement Match	\$ -
Additional Fringe	\$ -
Administrative	\$ 2,930
Advertising	\$ 8,050
AEVCS Charge	\$ 160
Building Rental	\$ 70
Catered Meals	\$ 500
Contract Services	\$ 20,200
Equipment Rental	\$ 4,400
Equipment/Building Purchases	\$ -
Food Costs	\$ 112,750
Fuel Costs	\$ 9,700
Fundraising Expenses	\$ 1,600
Imported Foods	\$ 6,000
Insurance Buildings	\$ 2,600
Insurance Vehicles	\$ 10,580
Licenses	\$ 320
Maintenance & Repair Buildings	\$ 12,000
Maintenance & Repair Vehicles	\$ 3,600
Memberships, Meetings, Conferences	\$ 740

Medicaid Recoupment	\$	100
Other Costs	\$	9,000
Pest Control	\$	1,500
Postage	\$	250
Printing	\$	5,400
Supplies Center	\$	6,180
Supplies Meal	\$	18,800
Supplies Vehicles	\$	40
Telephone & Internet	\$	3,075
Training, Education, Subscription	\$	350
Travel	\$	450
Utilities	\$	62,300
Other Costs Excess Revenues	\$	-
Administrative Cost Share	\$	29,240
TOTAL SERVICE CASH COST	\$	631,298
CAPITOL EXPENDITURES		
TOTAL CAPITOL EXPENDITURES	\$	-
TOTAL BUDGET	\$	631,298
TOTAL EXCESS/DEFICIT	\$	-

COMPREHENSIVE SERVICE FUNDING AND BUDGET SCHEDULE

AGING OF NW AR

une 30, 2018

		GRAND TOTAL
FUNDING:		
Title III B Federal	\$	27,750
Title III C1 Federal	\$	46,784
Title III C2 Federal	\$	25,480
SSBG Federal	\$	22,693
ST Senior Citizens Centers	\$	45,205
Cigarette Tax	\$	26,286
SUBTOTAL	\$	194,198
SAC OTHER: Program Income Cash	\$	98,887
SAC OTHER: Program Income Fundraising	\$	138,211
SAC OTHER: Program Income Cash	\$	237,098
SAC OTHER: Client Contributions	\$	78,448
SUBTOTAL	\$	315,546
TOTAL AAA/PI/CC CASH FUNDING	\$	509,744

SERVICE PROJECTIONS:

TITLE III	UNITS	18,395
SSBG	UNITS	3,468
ST SENIOR CITIZENS CENTERS	UNITS	8,514
CIGARETTE TAX	UNITS	3,762
SAC OTHER FUNDING	UNITS	69,660
TOTAL AAA/PI/CC	UNITS	103,800

NSIP @ \$73 PER UNIT	\$	38,398
----------------------	----	--------

CASH UNIT RATE (AAA/PI/CC)

AAA FUNDING UNIT RATE

NSIP UNIT RATE

TOTAL AAA REIMBURSEMENT UNIT RATE

MEDICAID HOT	UNITS	8,638
MEDICAID FROZEN	UNITS	5,141
MEDICAID EMERGENCY	UNITS	150
TOTAL MEDICAID	UNITS	13,929

MEDICAID @ \$5.97 PER UNIT	\$	83,156
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TOTAL SERVICE CASH FUNDING	\$	631,298
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TITLE III 15% MATCH REQUIREMENT

PROGRAM INCOME CASH SOURCES

County/Quorum Court/City	\$	98,887
Cash Donation	\$	-
Charitable Agency	\$	-
SUBTOTAL	\$	98,887
Fundraising	\$	138,211
TOTAL PROGRAM INCOME	\$	237,098

DATE:

October 19, 2017

REVISION #

1

TRANSPORTATION	SOCIALIZATION	CONGREGATE MEALS	HOME DELIVERED MEALS
\$ 15,249	\$ 12,501		
		\$ 46,784	
			\$ 25,480
\$ 8,190	\$ -	\$ -	\$ 14,503
\$ -	\$ 6,526	\$ -	\$ 38,679
\$ 15,772			\$ 10,514
\$ 39,211	\$ 19,027	\$ 46,784	\$ 89,176
\$ -	\$ 98,887	\$ -	\$ -
\$ 20,615	\$ 17,548	\$ 29,548	\$ 70,500
\$ 20,615	\$ 116,435	\$ 29,548	\$ 70,500
\$ 4,800	\$ 2,400	\$ 39,874	\$ 31,374
\$ 25,415	\$ 118,835	\$ 69,422	\$ 101,874
\$ 64,626	\$ 137,862	\$ 116,206	\$ 191,050

1,935	3,899	8,293	4,268
1,039	-	-	2,429
-	2,035	-	6,479
2,001			1,761
3,225	37,065	12,307	17,063
8,200	43,000	20,600	32,000

		\$ 15,038	\$ 23,360
--	--	-----------	-----------

\$	7.881220	\$	3.206093	\$	5.641068	\$	5.970313
----	----------	----	----------	----	----------	----	----------

\$	4.781829	\$	0.442488	\$	2.271068	\$	2.786750
				\$	0.730000	\$	0.730000
\$	4.781829	\$	0.442488	\$	3.001068	\$	3.516750

			8,638
			5,141
			150
			13,929

			\$	83,156
--	--	--	----	--------

\$	64,626	\$	137,862	\$	131,244	\$	297,566
----	--------	----	---------	----	---------	----	---------

\$	-	\$	98,887	\$	-	\$	-
\$	-	\$	-	\$	-	\$	-
\$	-	\$	-	\$	-	\$	-
\$	-	\$	98,887	\$	-	\$	-
\$	20,615	\$	17,548	\$	29,548	\$	70,500
\$	20,615	\$	116,435	\$	29,548	\$	70,500

Added at Agenda Session 11-28-17

Legistar ID No.: 2017-

AGENDA REQUEST FORM

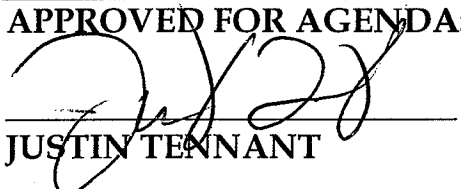
FOR: Council Meeting of December 5, 2017

FROM: City Council Member Justin Tennant

ORDINANCE OR RESOLUTION TITLE AND SUBJECT:

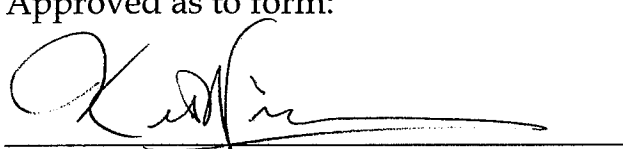
A RESOLUTION TO AUTHORIZE THE SALE OF A SMALL PARCEL OF LAND
SOUTH OF GEORGE'S MAJESTIC LOUNGE AND WEST OF THE RAILROAD
TRACTS

APPROVED FOR AGENDA:


JUSTIN TENNANT

11-28-17
Date

Approved as to form:


City Attorney Kit Williams

Nov 28, 2017
Date

RESOLUTION NO. _____

A RESOLUTION TO AUTHORIZE THE SALE OF A SMALL PARCEL OF LAND SOUTH OF GEORGE'S MAJESTIC LOUNGE AND WEST OF THE RAILROAD TRACKS

WHEREAS, the City of Fayetteville may only begin the process to sell its real property after "the City Council has passed a resolution expressly authorizing such sale," §34.27 (A) **Sale of Municipally Owned Real Property** of the Fayetteville Code; and

WHEREAS, this small parcel is isolated from other city property by the railroad tracks and is thus, "no longer needed for corporate purposes." §34.27 (B).

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby determines that the parcel described on Exhibit A is no longer needed for corporate purposes, is valued less the \$20,000.00 and should be sold for fair market value to George's Majestic Lounge which adjoins this property.

PASSED and APPROVED this 5th day of December, 2017.

APPROVED:

ATTEST:

By: _____
LIONELD JORDAN, Mayor

By: _____
SONDRA E. SMITH, City Clerk/Treasurer

EXHIBIT A

A part of Block 7 of the Original Town Subdivision of the City of Fayetteville, Washington County, Arkansas, being more particularly described as follows:

Beginning at a point on the West line of Block 7 which is South 00 degrees 09 minutes 30 seconds East a distance of 280.5 feet from the Northwest corner of said Block; thence North 89 degrees 50 minutes 30 seconds East a distance of 48.25 feet to a point on a 996.32 foot radius curve concave to the Northwest; thence Southwest along the curve, 25.0 feet West of and parallel to the tracks of the Arkansas and Missouri Railroad (formerly Burlington Northern Railroad Company), through a central angle of 08 degrees 18 minutes 17 seconds an arc length of 144.41 feet to the intersection of said curve with the West line of Block 7; thence North 00 degrees 09 minutes 30 seconds West a distance of 135.98 feet to the Point of Beginning, containing 0.08 acres, more or less.

Georges Majestic Lounge
519 W. Dickson St.
Fayetteville AR 72701
479-527-6618 / 479-527-6611 fax

December 4, 2017

Re: Small land plot just south of Georges Property .08 acres.
Parcel # 765-01745-001

To whom it may concern,

My wife Day and I are interested in purchasing the small plot of land just off the south side of our property at Georges Majestic Lounge. Our intent should we purchase it is to give us the option of the following other than just making our land plot a little larger:

1. If the future allowed Georges to look at some sort of expansion to maintain viability in the market we could use the extra space.
2. Short term might be to host a couple of small "daytime" beer fests or something similar in our parking lot once or twice a year. We could use the extra space for staging and or vending among the trees.

We appreciate the consideration for purchase and look forward to maintaining Georges place in our arts and entertainment district as an anchor and economic driver for Fayetteville.

Respectfully,

Brian Crowne
Founder & CEO Crowne Group LLC
Owner Georges Majestic Lounge
Vice President The Walmart AMP



**CITY OF
FAYETTEVILLE
ARKANSAS**

CITY COUNCIL MEMO

MEETING OF DECEMBER 5, 2017

TO: City Council

CC: Mayor Lioneld Jordan
Don Marr, Chief of Staff

FROM: Peter Nierengarten, Director of Sustainability

DATE: December 5, 2017

SUBJECT: Legistar Item No. 2017-0695 – Resolution to authorize the sale of a small parcel of land south of George's Majestic Lounge and west of the railroad tracks.

RECOMMENDATION:

Staff recommends that the City retain ownership of a portion of this parcel for corporate purposes. Ideally, Staff recommends retaining the totality of the southern portion of this property from an east to west line 10 feet north of the existing storm drain inlet, approximately 0.05 acres.

BACKGROUND:

This 0.08-acre parcel of land appears to be a remnant parcel that was isolated with the construction of the railroad and platted city street right-of-way that was never constructed. According to Washington County Assessor's Office records the City acquired the parcel from the Dickson Street Central Business Improvement District No. 1 in 1990. Currently the parcel contains a storm drain inlet, an 18" underground storm drain piping and a sidewalk that connects the West Ave Parking lot to Powerhouse Ave.

DISCUSSION:

Transportation staff indicated that it would be ideal to retain 10 feet of access on either side of the existing storm drain on this parcel to adequately provide maintenance access. The potential exists to vacate and move the existing storm drain infrastructure, however, this could be costly and require boring under the railroad right-of-way. This storm drain in its existing location is not within a recorded drainage easement because it is on city-owned property. If this entire parcel is sold to a private individual, staff would recommend recording a drainage easement sufficient for maintaining this infrastructure.

Likewise, the existing sidewalk is not within an easement since it is also located on City property. The Trails Coordinator recommends keeping the sidewalk in its existing location and either retaining the property or placing it within a recorded multi-use trail easement if the property is sold.

Additionally, the City of Fayetteville recently received a 1.77-million-dollar Walton Family Foundation Design Excellence Award for the design of a Cultural Arts Corridor. The West Ave. parking lot and the adjacent Razorback Regional Greenway were included in this Cultural Arts Corridor. This remnant parcel of land may be useful for providing connectivity and pedestrian access to the future development on the West Ave. lot to Powerhouse Ave. Staff is concerned that removing the existing pedestrian connectivity across this parcel may unnecessarily limit the potential for the final design of the West Ave. parking lot build-out.

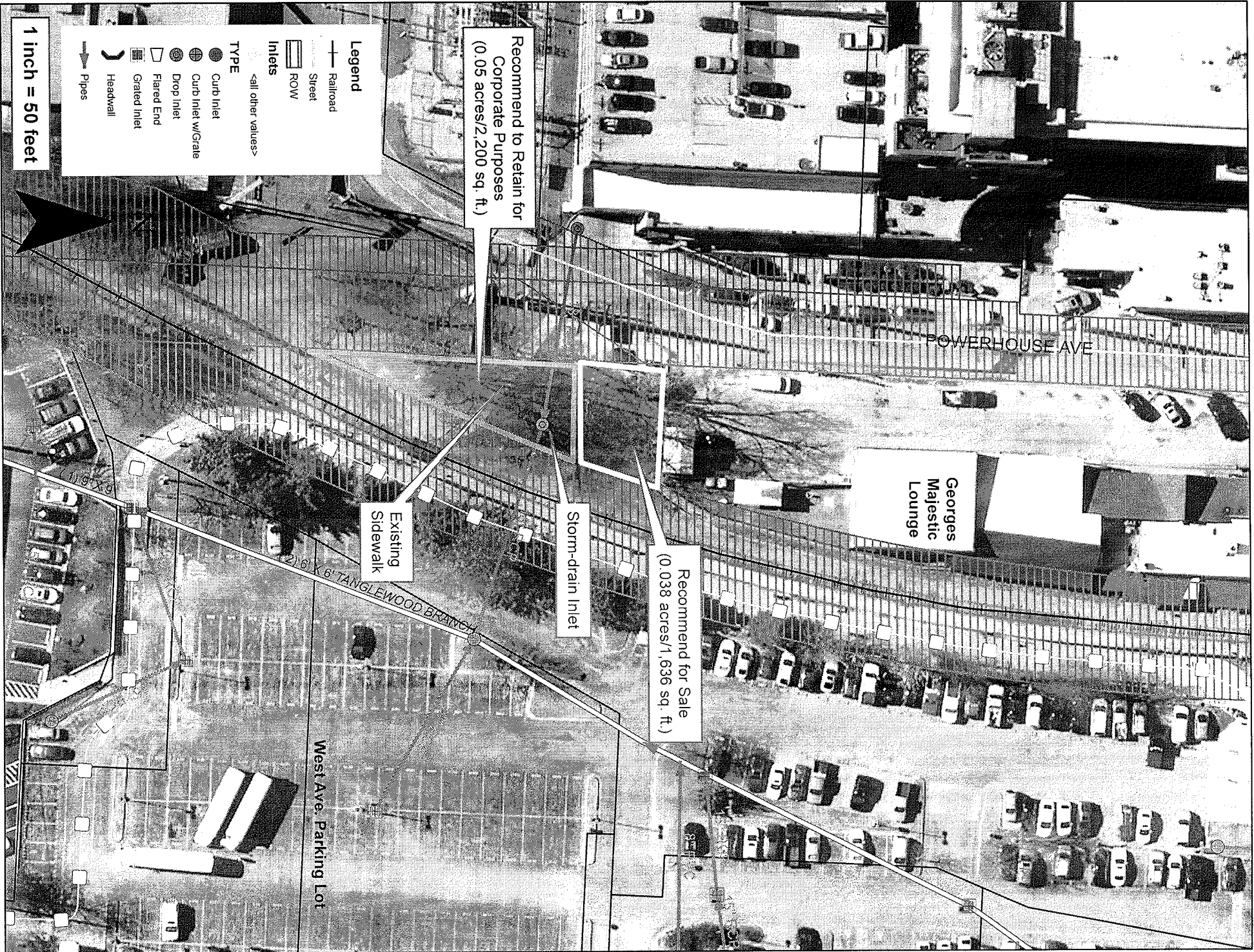
At a minimum, Staff recommends retaining the totality of the southern portion of this property from an east to west line 10 feet north of the existing storm drain, approximately 0.05 acres. Retaining this portion of the property, in lieu of selling the entire parcel and retaining multi-use trail and storm drainage easements across the parcel, provides maximum flexibility for the Walton Family Foundation Design Excellence Grant design and maintenance of existing infrastructure.

BUDGET/STAFF IMPACT:

None

Attachments:

Subject Property Map



POWERHOUSE AVE

Georges
Majestic
Lounge

Recommend for Sale
(0.038 acres/1,636 sq. ft.)

Storm-drain Inlet

Existing
Sidewalk

Recommend to Retain for
Corporate Purposes
(0.05 acres/2,200 sq. ft.)

West Ave. Parking Lot

TANGLEWOOD BRANCH

Legend

- Railroad
- Street
- ROW

Inlets

<all other values>

TYPE

- Curb Inlet
- Curb Inlet w/Gate
- Drop Inlet
- △ Flared End
- Grated Inlet
- Headwall
- Pipes

1 inch = 50 feet



MEETING OF DECEMBER 5, 2017

TO: City Council

CC: Mayor Lioneld Jordan
Don Marr, Chief of Staff

FROM: Peter Nierengarten, Director of Sustainability

DATE: December 5, 2017

SUBJECT: **Legistar Item No. 2017-0695 – Resolution to authorize the sale of a small parcel of land south of George’s Majestic Lounge and west of the railroad tracks.**

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BACKGROUND:

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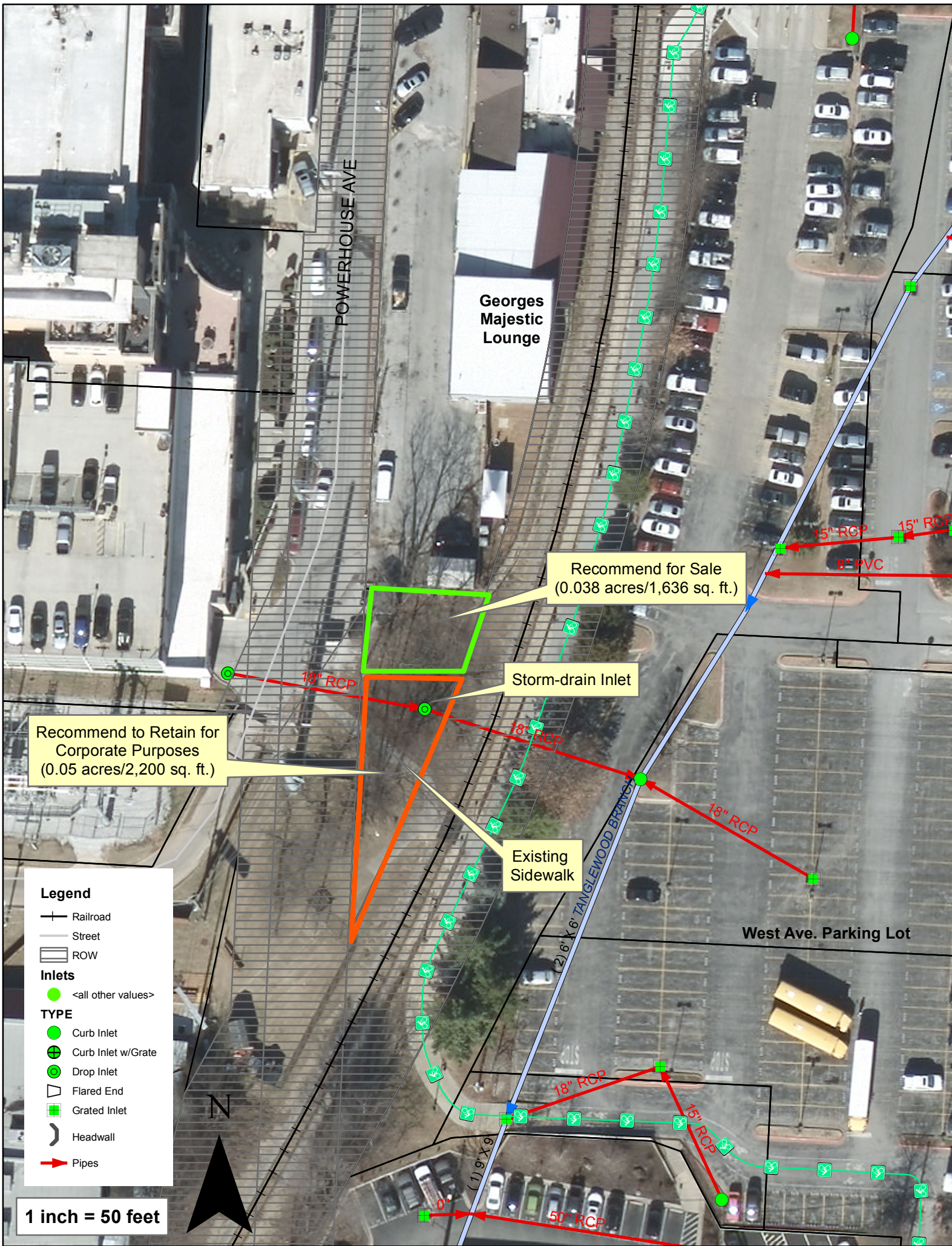
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BUDGET/STAFF IMPACT:

None

Attachments:

Subject Property Map



Georges Majestic Lounge
519 W. Dickson St.
Fayetteville AR 72701
479-527-6618 / 479-527-6611 fax

December 4, 2017

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Respectfully,

Brian Crowne
Founder & CEO Crowne Group LLC
Owner Georges Majestic Lounge
Vice President The Walmart AMP

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Brian Crowne
Founder & CEO Crowne Group LLC
Owner Georges Majestic Lounge
Vice President The Walmart AMP

City of Fayetteville, Arkansas

*113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323*



City Council Agenda Session Tentative Agenda

Tuesday, November 28, 2017

4:30 PM

City Hall Room 326

City Council Members

Adella Gray Ward 1

Sarah Marsh Ward 1

Mark Kinion Ward 2

Matthew Petty Ward 2

Justin Tennant Ward 3

Sarah Bunch Ward 3

John S. La Tour Ward 4

Kyle Smith Ward 4

ELECTED OFFICIALS:

Mayor Lioneld Jordan

City Attorney Kit Williams

City Clerk Sondra Smith

Call To Order**Roll Call****Pledge of Allegiance****Mayor's Announcements, Proclamations and Recognitions****City Council Meeting Presentations, Reports and Discussion Items:**

1. [2017-0539](#)
MONTHLY FINANCIAL REPORT - PAUL BECKER
2. [2017-0681](#)
ELECTION OF VICE MAYOR

Agenda Additions**A. Consent:**

- A. 1 [2016-0588](#)
APPROVAL OF THE NOVEMBER 21, 2017 CITY COUNCIL MEETING MINUTES.
- A. 2 [2017-0676](#)
ARKANSAS FORESTRY COMMISSION FIREWISE GRANT:

A RESOLUTION TO AUTHORIZE ACCEPTANCE OF AN ARKANSAS FIREWISE GRANT FROM THE ARKANSAS FORESTRY COMMISSION IN THE AMOUNT OF \$500.00 FOR USE BY THE FIRE DEPARTMENT, AND TO APPROVE A BUDGET ADJUSTMENT

Attachments:

[ARKANSAS FORESTRY COMMISSION FIREWISE GRANT](#)

[BA ARKANSAS FORESTRY COMMISSION FIREWISE GRANT](#)

A. 3 [2017-0651](#)

RFP #17-13 GALLAGHER BENEFITS SERVICES:

A RESOLUTION TO AWARD RFP #17-13 AND AUTHORIZE A ONE (1) YEAR CONTRACT WITH GALLAGHER BENEFITS SERVICES IN THE AMOUNT OF \$80,000.00, WITH AUTOMATIC RENEWALS FOR UP TO FOUR (4) ADDITIONAL ONE (1) YEAR TERMS, FOR THE PROVISION OF CITY EMPLOYEE BENEFITS BROKER SERVICES

Attachments: [RFP #17-13 GALLAGHER BENEFITS SERVICES:](#)

A. 4 [2017-0669](#)

BID #17-57 TRUCK CENTERS:

A RESOLUTION TO AWARD BID #17-57 AND AUTHORIZE THE PURCHASE OF A FREIGHTLINER M2-112 ROLL OFF TRUCK FROM TRUCK CENTERS OF SPRINGDALE, ARKANSAS IN THE AMOUNT OF \$148,663.00 FOR USE BY THE RECYCLING AND TRASH COLLECTION DIVISION

Attachments: [BID 17-57 TRUCK CENTERS OF ARKANSAS:](#)

A. 5 [2017-0671](#)

BID #17-58 TRUCK SERVICE CENTER, INC.:

A RESOLUTION TO AWARD BID #17-58 AND AUTHORIZE THE PURCHASE OF A UNICARRIERS PF50LP FORKLIFT FROM LIFT TRUCK SERVICE CENTER, INC. OF SPRINGDALE, ARKANSAS IN THE AMOUNT OF \$23,911.95 FOR USE BY THE WASTEWATER TREATMENT DIVISION

Attachments: [BID 17-58 LIFT TRUCK SERVICE CENTER OF SPRINGDALE](#)

A. 6 [2017-0670](#)

BID #17-62 WILLIAMS TRACTOR:

A RESOLUTION TO AWARD BID #17-62 AND AUTHORIZE THE PURCHASE OF TWO BOBCAT E45 T4 COMPACT TRACK EXCAVATORS FROM WILLIAMS TRACTOR OF FAYETTEVILLE, ARKANSAS IN THE TOTAL AMOUNT OF \$83,988.00 FOR USE BY THE WATER AND SEWER OPERATIONS DIVISION

Attachments: [BID #17-62 WILLIAMS TRACTOR](#)

A. 7 [2017-0668](#)

BID #17-63 HENARD UTILITY, INC.:

A RESOLUTION TO AWARD BID #17-63 AND AUTHORIZE THE PURCHASE OF A SECA SEWER JETTER TRUCK FROM HENARD UTILITY, INC. OF SEARCY, ARKANSAS IN THE AMOUNT OF \$217,575.00 FOR USE BY THE WATER AND SEWER OPERATIONS DIVISION

Attachments: [BID 17-63 HENARD UTILITY PRODUCTS, INC.](#)

A. 8 [2017-0667](#)

SPRING STREET PARKING DECK FUND:

A RESOLUTION TO CLOSE THE SPRING STREET PARKING DECK FUND, TRANSFER ABOUT \$243,431.00 REMAINING IN THAT FUND TO THE PARKING FUND AND TO APPROVE THE ATTACHED BUDGET ADJUSTMENT

Attachments: [SPRING STREET PARKING DECK FUND](#)
 [BA SPRING STREET PARKING DECK FUND](#)

A. 9 [2017-0672](#)

BKD, LLP:

A RESOLUTION TO APPROVE A ONE YEAR CONTRACT WITH BKD, LLP FOR AUDITING SERVICES FOR THE 2017 AUDIT, WITH AN OPTION TO RENEW FOR UP TO FOUR ADDITIONAL ONE YEAR TERMS

Attachments: [BKD,LLP](#)

A. 10 [2017-0652](#)

BID #17-56 81 CONSTRUCTION GROUP, INC.:

A RESOLUTION TO AWARD BID #17-56 AND AUTHORIZE A CONTRACT WITH 81 CONSTRUCTION GROUP, INC. IN THE AMOUNT OF \$435,650.00 FOR THE CONSTRUCTION OF THE LAKE SEQUOYAH BASIN 3 ACCESS ROAD, AND TO APPROVE A PROJECT CONTINGENCY IN THE AMOUNT OF \$43,565.00

Attachments: [BID #17-56 81 CONSTRUCTION GROUP, INC.](#)

A. 11 [2017-0653](#)

MCCLELLAND CONSULTING ENGINEERS, INC.:

A RESOLUTION TO APPROVE A CONTRACT WITH MCCLELLAND CONSULTING ENGINEERS, INC. IN THE AMOUNT OF \$15,200.00 FOR TESTING AND SURVEYING SERVICES ASSOCIATED WITH THE CONSTRUCTION OF THE LAKE SEQUOYAH BASIN 3 ACCESS ROAD PROJECT, AND TO APPROVE A BUDGET ADJUSTMENT

Attachments: [MCCLELLAND CONSULTING ENGINEERS, INC.](#)
 [BA_MCCLELLAND CONSULTING ENGINEERS, INC.](#)

A. 12 [2017-0655](#)

MCGOODWIN, WILLIAMS AND YATES, INC. AMENDMENT NO. 1:

A RESOLUTION TO APPROVE AMENDMENT NO. 1 TO THE CONTRACT WITH MCGOODWIN, WILLIAMS AND YATES, INC. IN AN AMOUNT NOT TO EXCEED \$74,016.00 FOR CHANGES TO THE DINSMORE TRAIL WATER MAIN PLANS, CONSTRUCTION OBSERVATION AND MANAGEMENT SERVICES, AND ASSISTANCE WITH PRESSURE SUSTAINING VALVES ON THE WATER MAINS

Attachments: [MCGOODWIN, WILLIAMS AND YATES, INC.](#)

B. Unfinished Business:**B. 1** [2017-0650](#)

REZONE COLLEGE AVENUE:

AN ORDINANCE TO REZONE ALL PARCELS WITHIN OR NEAR COLLEGE AVENUE AS SHOWN ON EXHIBIT C OF THE PLANNING DEPARTMENT'S AGENDA MEMO COMPRISING ABOUT 24.62 ACRES

Attachments: [REZONE COLLEGE AVENUE](#)

This ordinance was left on the first reading at the November 21, 2017 City Council meeting.

B. 2 [2017-0648](#)

AMEND §166.21 DOWNTOWN DESIGN OVERLAY DISTRICT:

AN ORDINANCE TO AMEND §166.21 DOWNTOWN DESIGN OVERLAY DISTRICT BY AMENDING THE APPLICABILITY SECTION TO INCLUDE COLLEGE AVENUE OVERLAY DISTRICT AND TO ENACT §166.26 COLLEGE AVENUE OVERLAY DISTRICT

Attachments: [AMEND §166.21 DOWNTOWN DESIGN OVERLAY DISTRICT](#)

This ordinance was left on the first reading at the November 21, 2017 City Council meeting.

C. New Business:**C. 1** [2017-0628](#)

WALTON FAMILY FOUNDATION DESIGN EXCELLENCE PROGRAM GRANT:

A RESOLUTION TO THANK THE WALTON FAMILY FOUNDATION, TO AUTHORIZE MAYOR JORDAN TO ACCEPT A DESIGN EXCELLENCE PROGRAM GRANT FROM THE WALTON FAMILY FOUNDATION IN THE AMOUNT OF \$1,770,000.00 TO FUND THE DESIGN OF AN INTERACTIVE OUTDOOR CULTURAL ARTS CORRIDOR ALONG THE RAZORBACK REGIONAL GREENWAY, TO AUTHORIZE THE ISSUANCE OF A REQUEST FOR QUALIFICATIONS WITH THE CONDITION THAT ONLY FIRMS PRE-APPROVED BY THE WALTON FAMILY FOUNDATION MAY RESPOND, AND TO APPROVE A BUDGET ADJUSTMENT

Attachments: [Legistar Packet - WFF Design Excellence - Cultural Arts Corridor](#)
 [BA WALTON FAMILY FOUNDATION DESIGN EXCELLENCE GRANT](#)

C. 2 [2017-0660](#)

THEATRESQUARED, INCORPORATED:

A RESOLUTION TO EXPRESS THE CITY COUNCIL'S ACCEPTANCE AND APPROVAL OF THEATRESQUARED, INCORPORATED'S PLEDGES AND FINANCIAL COMMITMENTS AS SUFFICIENT TO ENSURE COMPLETION OF THEATRESQUARED'S \$31,500,000.00 THEATER PROJECT, AND TO AUTHORIZE MAYOR JORDAN TO INVEST THE PROMISED \$3,100,000.00 AS CONSTRUCTION REIMBURSEMENTS PURSUANT TO THE CONTRACT OF JUNE 28, 2017

Attachments: [THEATRESQUARED, INCORPORATED](#)

C. 3 [2017-0661](#)

AREA AGENCY ON AGING OF NORTHWEST ARKANSAS:

AN ORDINANCE TO WAIVE THE REQUIREMENTS OF FORMAL COMPETITIVE BIDDING AND APPROVE A CONTRACT BETWEEN THE CITY OF FAYETTEVILLE, ARKANSAS AND THE AREA AGENCY ON AGING OF NORTHWEST ARKANSAS IN THE AMOUNT OF \$98,887.00 TO PROVIDE PUBLIC RECREATION SERVICES FOR THE SENIOR CITIZENS OF FAYETTEVILLE FOR 2018, CONTINGENT ON APPROVAL OF THE 2018 ANNUAL CITY BUDGET AND WORK PROGRAM

Attachments: [AREA AGENCY ON AGING OF NORTHWEST ARKANSAS](#)

C. 4 [2017-0659](#)

FAYETTEVILLE YOUTH CENTER, INC.:

AN ORDINANCE TO WAIVE THE REQUIREMENTS OF FORMAL COMPETITIVE BIDDING AND APPROVE A CONTRACT BETWEEN THE CITY OF FAYETTEVILLE, ARKANSAS AND FAYETTEVILLE YOUTH CENTER, INC. IN THE AMOUNT OF \$225,000.00 TO PROVIDE PUBLIC RECREATION SERVICES FOR THE YOUTH AND CITIZENS OF FAYETTEVILLE FOR 2018 CONTINGENT UPON APPROVAL OF THE 2018 CITY BUDGET

Attachments: [2017-0659 Legistar Packet](#)

C. 5 [2017-0594](#)

2017 WATER MASTER PLAN UPDATE:

A RESOLUTION TO ACCEPT AND ADOPT THE 2017 WATER MASTER PLAN UPDATE

Attachments: [2017 WATER MASTER PLAN UPDATE](#)

C. 6 [2017-0679](#)

CITY OF GREENLAND WASTEWATER CONTRACT:

A RESOLUTION TO APPROVE A FIFTEEN (15) YEAR CONTRACT WITH THE CITY OF GREENLAND TO ACCEPT AND PROCESS THEIR WASTEWATER AND TO AUTHORIZE MAYOR JORDAN TO SIGN THIS CONTRACT

Attachments: [CITY OF GREENLAND WASTEWATER CONTRACT](#)

C. 7 [2017-0654](#)

ALLGEIER, MARTIN AND ASSOCIATES, INC.:

A RESOLUTION TO AUTHORIZE A PROFESSIONAL ENGINEERING SERVICES AGREEMENT WITH ALLGEIER, MARTIN AND ASSOCIATES, INC., PURSUANT TO RFQ #17-01, IN AN AMOUNT NOT TO EXCEED \$480,049.00 FOR THE ENGINEERING DESIGN AND ENGINEERING OBSERVATION AND MANAGEMENT SERVICES ASSOCIATED WITH ELECTRICAL REHABILITATION AND IMPROVEMENTS AT THE PAUL R. NOLAND WASTEWATER TREATMENT PLANT, TO APPROVE A PROJECT CONTINGENCY IN THE AMOUNT OF \$48,004.90, AND TO APPROVE A BUDGET ADJUSTMENT

Attachments: [ALLGEIER, MARTIN AND ASSOCIATES, INC.](#)
 [BA ALLGEIER, MARTIN AND ASSOCIATES, INC.](#)

C. 8 [2017-0666](#)

CH2M HILL ENGINEERS, INC. AMENDMENT NO. 9:

A RESOLUTION TO APPROVE AMENDMENT NO. 9 TO THE AGREEMENT FOR OPERATIONS, MAINTENANCE AND MANAGEMENT SERVICES BETWEEN THE CITY OF FAYETTEVILLE, ARKANSAS AND CH2M HILL ENGINEERS, INC. IN THE AMOUNT OF \$7,938,833.00 FOR SERVICES IN 2018

Attachments: [CH2M HILL ENGINEERS, INC.](#)

D. City Council Agenda Session Presentations:**D. 1** [2017-0635](#)

AGENDA SESSION PRESENTATION - 2017-2018 DRAINAGE
IMPROVEMENTS PLAN

E. City Council Tour:**F. Announcements:****G. Adjournment**



City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2017-0539

Agenda Date: 12/5/2017

Version: 1

Status: Agenda Ready

In Control: City Council Meeting

File Type: Report

Agenda Number: 1.

MONTHLY FINANCIAL REPORT - PAUL BECKER



City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2017-0681

Agenda Date: 12/5/2017

Version: 1

Status: Agenda Ready

In Control: City Council Meeting

File Type: Vice Mayor

Agenda Number: 2.

ELECTION OF VICE MAYOR



City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2016-0588

Agenda Date: 12/5/2017

Version: 1

Status: Agenda Ready

In Control: City Council Meeting

File Type: Minutes

Agenda Number: A. 1

APPROVAL OF THE NOVEMBER 21, 2017 CITY COUNCIL MEETING MINUTES.



City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2017-0676

Agenda Date: 12/5/2017

Version: 1

Status: Agenda Ready

In Control: City Council Meeting

File Type: Resolution

Agenda Number: A. 2

ARKANSAS FORESTRY COMMISSION FIREWISE GRANT:

A RESOLUTION TO AUTHORIZE ACCEPTANCE OF AN ARKANSAS FIREWISE GRANT FROM THE ARKANSAS FORESTRY COMMISSION IN THE AMOUNT OF \$500.00 FOR USE BY THE FIRE DEPARTMENT, AND TO APPROVE A BUDGET ADJUSTMENT

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby authorizes acceptance of an Arkansas Firewise Grant from the Arkansas Forestry Commission in the amount of \$500.00 for use by the Fire Department.

Section 2: That the City Council of the City of Fayetteville, Arkansas hereby approves a budget adjustment, a copy of which is attached to this Resolution.

City of Fayetteville Staff Review Form

2017-0676

Legistar File ID

12/5/2017

City Council Meeting Date - Agenda Item Only

N/A for Non-Agenda Item

David Dayringer

11/17/2017

Fire /
Fire Department

Submitted By

Submitted Date

Division / Department

Action Recommendation:

Staff requests approval to accept an Arkansas Forestry Commission Firewise Grant and approval of a Budget Adjustment.

Budget Impact:

1010.300.3020-5210.00

General

Account Number

Fund

32016.2017

Firewise Grant

Project Number

Project Title

Budgeted Item? NA

Current Budget \$ -

Funds Obligated \$ -

Current Balance \$ -

Does item have a cost? No

Item Cost \$ -

Budget Adjustment Attached? Yes

Budget Adjustment \$ 500.00

Remaining Budget \$ 500.00

V20140610

Previous Ordinance or Resolution #

Original Contract Number:

Approval Date:

Comments:



MEETING OF DECEMBER 5, 2017

TO: Mayor and City Council

FROM: David Dayringer, Fire Chief

DATE: November 17, 2017

SUBJECT: Staff requests approval to accept an Arkansas Forestry Commission Firewise Grant and approval of a Budget Adjustment.

RECOMMENDATION:

The Fire Department has been awarded the Arkansas Firewise Grant for 2017. The Fire Department will use the \$500.00 for minor equipment such as special wildland fire rakes, hand tools, posters, and educational materials to assist with assigned job tasks.

DISCUSSION:

The Arkansas Forestry Commission provides financial assistance to help fire departments educate and assist municipalities in becoming fire safe communities through the Firewise Program. The goal of this program is to bring awareness to the dangers of wildland fire within the urban environment. This awareness is brought about through assessing residential and commercial property and identifying hazards that might exist. Once wildland fire hazards have been identified then efforts are made to help facilitate the property owners in reducing their fire danger risk.

BUDGET/STAFF IMPACT:

There is no requirement for matching funds so there should be no impact to budgeted expenses.

Attachments:

Budget Adjustment

Budget Year	Division	Adjustment Number
2017	FIRE (300)	
	Requestor: David Dayringer	

Approval of a Budget Adjustment to accept the Firewise Grant from the Arkansas Forestry Commission.

	COUNCIL DATE:	12/5/2017
	LEGISTAR FILE ID#:	2017-0676
	<i>Barbara Fell</i> 11/17/2017 3:35 PM	
	Budget Director	Date
	TYPE:	
	DESCRIPTION:	
	GLDATE:	
	POSTED:	/
RESOLUTION/ORDINANCE		

[illegible]



City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2017-0651

Agenda Date: 12/5/2017

Version: 1

Status: Agenda Ready

In Control: City Council Meeting

File Type: Resolution

Agenda Number: A. 3

RFP #17-13 GALLAGHER BENEFITS SERVICES:

A RESOLUTION TO AWARD RFP #17-13 AND AUTHORIZE A ONE (1) YEAR CONTRACT WITH GALLAGHER BENEFITS SERVICES IN THE AMOUNT OF \$80,000.00, WITH AUTOMATIC RENEWALS FOR UP TO FOUR (4) ADDITIONAL ONE (1) YEAR TERMS, FOR THE PROVISION OF CITY EMPLOYEE BENEFITS BROKER SERVICES

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby awards RFP #17-13 and authorizes a one (1) year contract with Gallagher Benefits Services in the amount of \$80,000.00, with automatic renewals for up to four (4) additional one (1) year terms, for the provision of employee benefits broker services.

City of Fayetteville Staff Review Form

2017-0651

Legistar File ID

12/5/2017

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Brenda Reed

11/9/2017

Human Resources /
Chief of Staff

Submitted By

Submitted Date

Division / Department

Action Recommendation:

Approve the contract with Gallagher Benefit Services, Inc. ("Gallagher") for benefit broker health and welfare services, benefit technology solutions and retirement plan vendor management services effective January 1, 2018. Gallagher will advise City staff on benefits administration, carrier negotiations, renewals, health care reform requirements under the Affordable Care Act, retirement plan vendor management and governance support. Funding is based on City Council approval of the 2018 budget.

Budget Impact:

1010.1220.5314.00

General

Account Number

Fund

N/A

Employee Benefits/Services

Project Number

Project Title

Budgeted Item? Yes

Current Budget \$ 80,000.00

Funds Obligated

Current Balance

\$ 80,000.00

Does item have a cost? Yes

Item Cost \$ 80,000.00

Budget Adjustment Attached? No

Budget Adjustment

Remaining Budget

\$ -

V20140710

Previous Ordinance or Resolution #

Original Contract Number:

Approval Date:

Comments:



MEETING OF DECEMBER 5, 2017

TO: Mayor and City Council

THRU: Don Marr, Chief of Staff

FROM: Brenda Reed, HR Director

DATE: November 9, 2017

SUBJECT: Approval of the 2018 contract with Gallagher Benefit Services, Inc.

RECOMMENDATION:

Staff recommends Council approve the contract with Gallagher Benefit Services, Inc., ("Gallagher") for benefit broker and consulting services effective January 1, 2018. The initial term of the agreement shall be for one (1) year. The agreement shall automatically renew for up to four (4) additional one (1) year terms unless either party provides notice of non-renewal at least thirty (30) days prior to the end of the term. Annual renewals shall be subject to annual budget approval by City Council.

BACKGROUND:

In August 2017, the City published a Request for Proposal (RFP) for a benefits broker and consulting services vendor. The City's last benefits broker and consulting vendor RFP was issued March 24, 2012 and the contract was awarded to Gallagher on May 16, 2012.

DISCUSSION:

Gallagher provides health and welfare advisement services, large scale negotiation leverage with carriers, benefit technology solutions, government specific and private benchmark reporting, and compliance support. They will advise City staff on benefits administration, carrier renewals, health care reform requirements under the Affordable Care Act, and governance support. The 2018 Gallagher contract for health and welfare broker services costs will remain the same at \$57,600.

Through the Gallagher contract, the City will utilize the American Fidelity AFEnroll benefits administration system, ACA measuring and reporting software tool and section 125 benefit plan administration at no cost to the City.

New in 2018, Gallagher will provide retirement plan vendor management services to the City at a cost of \$22,400.

Why is the City proposing to utilize the services of a retirement plan vendor to help manage the City's retirement plan with 55 million dollars in assets?

The proposed services will assist the City in making decisions in the best interest of the plan/participants and provide best practice plan governance to assist in making professionally advised plan decisions.

These services will enhance transparency so we can fully understand what our retirement plan trustee record-keeper is charging the City and plan participants for services and fees. This watch dog approach will equip the City to make decisions which lead to maximum value for the plan/participants.

The total cost for the 2018 Gallagher contract for broker health and welfare and retirement plan vendor management services is \$80,000.

BUDGET/STAFF IMPACT:

Funding is based on City Council approval of the 2018 budget.

CONSULTING AGREEMENT

This Consulting Agreement (this "Agreement") is made by and between Gallagher Benefit Services, Inc., ("Gallagher") and City of Fayetteville, Arkansas the ("Client").

The Client wishes to enter into a consulting relationship with Gallagher on the terms and conditions set forth in this Agreement, and Gallagher is willing to accept such a consulting relationship. In consideration of and in reliance upon the terms and conditions contained in this Agreement, the Client and Gallagher agree as follows:

1. Engagement of Services

The Client engages Gallagher as a professional consultant to provide the consulting and/or brokerage services as more fully described in Exhibit A attached to this Agreement and incorporated herein. During the time that Gallagher is performing services for the Client under this Agreement, and for all purposes outlined in this document, Gallagher's status will be that of an independent contractor of the Client.

2. Term and Termination

The Effective Date of this Agreement is January 1, 2018. The term of Gallagher's engagement under this Agreement (the "Consulting Period") will begin as of the Effective Date and will remain in effect for one (1) year from the Effective Date. **The Consulting Period will be automatically extended for an additional year on each anniversary of the Effective Date.** Either party may terminate this Agreement by giving the other party at least thirty (30) days written notice of its intent to terminate. In the event such termination is effective during the Consulting Period (including any renewed Consulting Period), Client shall be responsible for compensating Gallagher for any services performed prior to the date of termination and Gallagher shall be responsible to Client to continue to provide services until the date of termination of this Agreement.

3. Compensation

As compensation for its services under this Agreement, Gallagher will receive carrier commissions and/or direct fee owed by the Client, as set forth in the Compensation Disclosure Statement attached hereto as Exhibit B. Additional information regarding Gallagher compensation can also be found in Exhibit B. Gallagher shall disclose the amount of commissions payable to it by each insurance company at the time it presents rates to Client. The Client is responsible for payment of Gallagher's fees (if applicable) within thirty (30) days of invoice receipt. If any amount is not paid in full when due without a good faith basis to withhold, that nonpayment will constitute a material breach of this Agreement that will allow Gallagher to immediately terminate this Agreement.

4. Performance and Scope

(a) Representations and Warranties. Each party represents, warrants and covenants to the other that: (i) it has full power and authority to make, execute, deliver and perform its obligations under this Agreement; (ii) the performance of its obligations pursuant to this Agreement shall be in accordance with all applicable laws; (iii) this Agreement has been duly executed and delivered by an authorized representative of such party and constitutes the legal, valid and binding obligation of such party, enforceable against such party in accordance with its terms; and (iv) there are no other agreements presently in force which would encumber or prevent either party's compliance with any terms of this Agreement.

(b) Standard of Care. Gallagher will perform its duties, responsibilities and obligations with the care, skill, prudence and diligence that a prudent employee benefits consultant or insurance broker acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims under the circumstances then prevailing. As appropriate, Gallagher will coordinate fiduciary review services and other related duties with the plan's claims administrator and/or insurance carrier(s). However, Gallagher generally does not accept any fiduciary duties or obligations with respect to a plan given that these are typically performed by the plan's claims administrator or insurance carriers.

(c) Reliance. In the performance of its duties, Gallagher may rely upon, and will have no obligation to independently verify the accuracy, completeness, or authenticity of, any written instructions or information provided to Gallagher by the Client or its designated representatives and reasonably believed by Gallagher to be genuine and authorized by the Client.

(d) No Practice of Law. Gallagher will not be obligated to perform, and the Client will not request performance of, any services which may constitute the unauthorized practice of law. The Client will be solely responsible for obtaining any legal advice, review or opinion as may be necessary to ensure that its own conduct and operations, including the engagement of Gallagher under the scope and terms herein, conform in all respects with applicable State and Federal laws and regulations (including ERISA, the Internal Revenue Code, State and securities laws and implementing regulations) and, to the extent that the Client has foreign operations, any applicable foreign laws and regulations.

(e) Subcontractors. Gallagher may cause another person or entity, as a subcontractor of Gallagher, to provide some of the services required to be performed by Gallagher hereunder; provided that Gallagher shall remain responsible for all acts and omissions of any such subcontractors (each of which shall be bound by Gallagher's obligations under this Agreement). Gallagher shall seek prior written approval from Client for any subcontractors providing substantive consulting, professional or managerial services. Prior written approval shall not be required for clerical, office, secretarial, IT back-up, administrative or similar support services.

(f) Conflict of Interest. Gallagher's engagement under this Agreement will not prevent it from taking similar engagements with other clients who may be competitors of the Client. Gallagher will, nevertheless, exercise care and diligence to prevent any actions or conditions which could result in a conflict with Client's best interest.

(g) Acknowledgements. In connection with Gallagher's services under this Agreement, Client agrees that:

(i) Although Gallagher will apply its professional judgment to access those insurance companies it believes are best suited to insure the Client's risks, there can be no assurance that the insurance companies Gallagher has accessed are the only or are the best suited ones to insure the Client's risks. The final decision to choose any insurance company has been made by the Client in its sole and absolute discretion. The Client understands and agrees that Gallagher does not take risk, and that Gallagher does not guarantee the financial solvency or security of any insurance company.

(ii) Any compensation of the types described above and disclosed to it does not constitute a conflict of interest and the Client expressly waives any claims alleging any such conflict of interest.

(iii) The compensation payable to Gallagher is solely for the services set forth under this Agreement, as detailed in Exhibit A. Any additional administrative, claims representative or other services (collectively, "Additional Services") will be governed by the terms of a separate agreement covering the Additional Services.

5. Confidentiality

(a) Client Information. Gallagher recognizes that certain confidential information may be furnished by the Client to Gallagher in connection with its services pursuant to this Agreement ("Confidential Information"). Gallagher agrees that it will disclose Confidential Information only to those who, in Gallagher's reasonable determination, have a need to know such information. Confidential Information will not include information that (i) is in the possession of Gallagher prior to its receipt of such information from the Client, (ii) is or becomes publicly available other than as a result of a breach of this Agreement by Gallagher, or (iii) is or can be independently acquired or developed by Gallagher without violating any of its obligations under this Agreement. However, disclosure by Gallagher of any Confidential Information pursuant to the terms of a valid and effective subpoena or order issued by a court of competent jurisdiction, judicial or administrative agency or by a legislative body or committee will not constitute a violation of this Agreement. Unless prohibited by law, Gallagher shall provide Client with any such subpoena or order and an opportunity to object prior to disclosure. Furthermore, Gallagher will limit disclosure to that information required to be disclosed under the terms of the subpoena or order and will reasonably cooperate with Client (at Client's expense) to limit such disclosure.

(b) HIPAA Privacy. Gallagher and the Client will each comply with any prohibitions, restrictions, limitations, conditions, or other requirements to the extent they apply to them directly or indirectly pursuant to the Health Insurance Portability and Accountability Act of 1996 ("HIPAA") and its implementing regulation concerning privacy of individually identifiable health information as set forth in 45 CFR Parts 160-164, as amended from time to time. When required, the Client, as a representative of the health plans and Gallagher will enter into a separate Business Associate Agreement.

(c) Use of Names; Public Announcements. No party will use, in any commercial manner, the names, logos, trademarks or other intellectual property of the other party without its prior written consent. Except as may be required by law, no party will issue any press releases or make any public announcements of any kind regarding the relationship between the parties without the other party's prior consent.

(d) Aggregated Data. Gallagher shall own any non-identifying, aggregated and statistical data that might be derived from providing services to Client (the "Aggregated Data"). Nothing herein shall be construed as prohibiting Gallagher from utilizing the Aggregated Data for purposes of operating Gallagher's business. Gallagher shall not: (i) disclose to any third party any Aggregated Data that reveals Client's identity or its Confidential Information; or (ii) reveal the identity, whether directly or indirectly, of any individual whose specific data might be used by Gallagher on behalf of Client.

6. Limitation of Liability

Notwithstanding any other term or provision of this Agreement, neither party shall be liable to the other for any exemplary, special indirect, incidental, consequential or punitive damages (including but not limited to lost profits) which may result from the other party's action or its failure to perform any term or condition of this Agreement or whether such liability is based upon tort, strict liability, breach of warranties, failure of essential purpose or otherwise and if advised of the possibility of such damages. This provision applies to the fullest extent permitted by applicable law. The aggregate liability under this Agreement, if any, of either party to the other for claimed losses or damages shall not exceed \$20,000,000. This provision applies to the fullest extent permitted by applicable law.

7. *Notices*

Any notices, requests or other communications pursuant to this Agreement will be addressed to the party at its address listed below. Such notices will be deemed to have been duly given, (i) if delivered in person or by courier, upon delivery; (ii) if sent by an overnight service with tracking capabilities, upon receipt; (iii) if sent by registered or certified mail, postage prepaid, within five (5) days of deposit in the mail; or (iv) if sent by fax or electronic mail, at such time as the party which sent the notice receives confirmation of receipt by the applicable method of transmittal.

If to the Client: City of Fayetteville, Arkansas
 Attention: Brenda Reed
 113 West Mountain
 Fayetteville, AR 72701

If to Gallagher: Gallagher Benefit Services, Inc.
 Attention: Jacob Salinas
 300 S. Jefferson, Ste. 600N
 Springfield, MO 65806

Either party may, by written notice to the other, change the address to which notices to such party are to be delivered or mailed.

8. *Miscellaneous*

(a) Severability. The various provisions and subprovisions of this Agreement are severable and if any provision or subprovision or part thereof is held to be unenforceable by any court of competent jurisdiction, then such enforceability will not affect the validity or enforceability of the remaining provisions or subprovisions or parts thereof in this Agreement.

(b) Entire Agreement; Amendment. This Agreement, including all exhibits hereto, constitutes the entire agreement between the parties and supersedes all prior agreements and understandings, whether oral or written, between the parties regarding the subject matter hereof. Except for changes in carriers and/or lines of coverage noted in Exhibit B, which may occur upon unilateral approval of the Client, this Agreement may be modified or amended only by a written instrument executed by both parties. This Agreement may be executed by the parties in several counterparts, each of which shall be deemed to be an original copy.

(c) Waiver. No covenant, term or condition or the breach thereof will be deemed waived, except by written consent of the party against whom the waiver is claimed. Any waiver by either party hereto of any provision of this Agreement shall not be construed as a waiver of any other provision of this Agreement, nor shall such waiver be construed as a waiver of such provision with respect to any other event or circumstance, whether past, present or future.

(d) Governing Law; Rule of Construction. This Agreement will be construed, interpreted and enforced in accordance with the laws of the State of Arkansas without giving effect to the choice of law principles thereof or any canon, custom or rule of law requiring construction against the drafter.

(e) Successors. This Agreement shall be binding upon and shall inure to the benefit of all assigns, transferees and successors in the interest of the parties hereto.

(f) Survival of Provisions. Sections 5 and 6 will survive the termination of this Agreement.

**[The remainder of this page intentionally left blank.
The parties' signatures appear on the following page.]**

IN WITNESS WHEREOF, the parties hereto have caused this Consulting Agreement to be duly executed on the date first written above.

CITY OF FAYETTEVILLE, ARKANSAS

By: _____

Name: Lioneld Jordan

Title: Mayor

Date: _____

GALLAGHER BENEFIT SERVICES, INC.

By: _____

Name: Rachel Rakey

Title: Area President

Date: 11-8-17

EXHIBITA

SCOPE OF SERVICES

Subject to any changes and additions as may be mutually agreed by the parties in writing, availability and delivery of data from the insurance carrier and other third party vendors, Gallagher will provide the following Services to Client on an “as needed” basis:

RENEWAL ANALYSIS:

- Review and evaluate carrier projections
- Prepare “shadow” renewal projection
- Create financial modeling reports using proprietary Apex software
- Coordinate carrier negotiations
- Create employee contribution modeling reports
- Review identified benchmarks of projected plan costs
- Develop “working” rates for Client analysis and approval
- Assist with budget projections
- Provide renewal alternatives with cost impact of benefit plan changes

PERIODIC PLAN FINANCIAL REPORTS: (FREQUENCY TO BE MUTUALLY AGREED UPON)

- Summary of plan costs
- Analysis of actual vs. budget
- Employee contributions
- Large claims tracking
- Identification of costs for specific line of coverage
- Comparison of plan costs to aggregate stop-loss projections, if applicable
- Utilization review
- Comparison to prior claim period
- Plan trends

ANNUAL FINANCIAL REPORTS (END OF YEAR ACCOUNTING):

- Executive summary of program expenses
- Comparison of current costs to renewal costs
- Incurred But Not Reported (IBNR) claims analysis
- Overview of specific Stop-loss projections
- Future plan costs projections
- Dollars saved by contract negotiation
- Percent of benefit dollars paid by employee
- Claims by size
- Physician visit details
- Benefits paid by type of service
- Plan funding/budget comparison
- Fixed expense comparison

CARRIER MARKETING AND NEGOTIATIONS, AS DIRECTED BY CLIENT:

- Work with Client to develop a strategy to identify goals, analyze program costs and review both current and alternative funding arrangements
- Manage the renewal process with the current carrier to control costs
- Implement carrier renewal strategies with Client
- Develop timeline covering every aspect from RFP preparation to the delivery of employee communications
- Provide analysis of employee disruption report and preparation of geo-access report
- Provide analysis of discounts offered by various carriers by using CPT codes and carrier pricing data

- Manage RFP development that tailors the RFP to the desires, needs and financial directions provided by Client
- Explore alternative funding solutions
- Evaluate vendor responses to track variations in coverage and costs as they are identified
- Conduct finalist interviews to investigate and document intangibles such as personalities, service orientation and responsiveness
- Draft renewal analysis report, based on renewal negotiation, covers program and claims cost projections as well as complete information on benefit designs
- Facilitate decision process by coordinating close collaboration and discussions among the Gallagher team and Client

LEGISLATIVE AND CORPORATE COMPLIANCE SUPPORT:

- Provide legislative updates, including Technical Bulletins and Directions newsletters
- Evaluate plan design to assist with compliance with state and federal regulations
- Review benefit plan documents, including summary plan descriptions, contracts, employee summaries, and policies/procedures
- Conduct periodic seminars on regulatory issues
- Assist with the review and evaluation of COBRA and HIPAA compliance procedures
- Provide general information and guidance to assist with compliance with ERISA, FMLA, USERRA, Medicare Part D and other Federal legislation that directly affects the administration of plan benefits
- Provide template or sample compliance notices, certificates of creditable coverage and enrollment forms as reasonably requested by Client

DAY TO DAY ADMINISTRATIVE ASSISTANCE

EMPLOYEE EDUCATION PROGRAMS:

- Facilitate focus groups
- Monthly benefit communication directed to employees
- Educational meetings on coverage and trends

COMMUNICATION MATERIALS:

- Assist with the drafting and distribution of participant Satisfaction Surveys
- Assist with the drafting and distribution of Open Enrollment-New Member Orientation summary information and any other communications pertaining to the health and welfare program
- Provide annual open enrollment guidance and employee meeting materials
- Assist with marketing and oversight of Customized Enrollment Materials (if elected)
- Assist with participant wellness initiatives, as directed by Client

BENEFIT ADMINISTRATION ASSESSMENT:

- Periodic evaluation of internal plan enrollment and benefit termination processes
- Review, coordinate and implement Client agreed upon plan “best practices” to help limit plan liability and increase participant satisfaction
- Help identify opportunities for streamlining and improving administration procedures

BENEFIT PLAN DESIGN (OR REDESIGN):

- Help Client identify business and HR objectives that impact benefits
- Review with Client possible benefit strategies to meet their objectives
- Help Client evaluate/review current scope of benefits package – e.g., types & levels of coverage
- Work with Client to develop funding and contribution strategies
- Assist with budget projections for design alternatives

MARKET BENCHMARKING STUDIES:

- Local Area Surveys
- Industry Surveys

COORDINATE AND MANAGE AMERICAN FIDELITY BENEFITS ADMINISTRATION SOFTWARE SERVICES

- Gather information and assist Client with accessing and using American Fidelity's services.
- Serve as the primary liaison between Client and American Fidelity.
- American Fidelity shall provide the following services at no additional cost to Client in its capacity of insurance carrier of coverages selected by Client:
 - Provide Employee Education and Communication prior to annual Open Enrollment
 - Conduct Group Meetings prior to Open Enrollment
 - Facilitate One-on-One Benefit Reviews with each employee during Open Enrollment
 - Perpetual Onboarding with New Employees for enrollment of benefit plan options
 - Provide Health Flexible Spending Account & Dependent Day Care support and enrollment and no additional cost to the Client
 - Provide the Client ACA 6055/6056 Tracking and Reporting services at no additional cost through WorxTime, a preferred vendor partner
- American Fidelity shall also make AFEnroll site available to HR throughout the plan year that includes:
 - Provide HR access to real-time online administrative service features
 - Provide HR access to online reporting functions.
 - Provide links to electronic EOI questionnaires where required by carriers for life or disability coverage requests.
 - Send recurring eligibility data feed to 3rd party carrier systems
 - Send recurring deduction codes to Client's payroll system (if requested).
 - Create 834 data interfaces – Configuration of carrier export file based on carrier requirements and ability to accept data
 - Create data feeds in American Fidelity Standard Format
 - Custom create non-834 data interfaces
 - Conduct Annual Renewal Configurations (for each new carrier or change in data feed requirements at renewal).
 - Provide Standard Feed formats (Excel)
- Client shall receive at least 60 days' written notice from Gallagher prior to any proposed price changes for American Fidelity services or changes in American Fidelity scope of services, including American Fidelity terminating its services to Client.
- Client shall provide Gallagher with at least 60 days' written notice prior to any proposed changes in Client's utilization of American Fidelity services, including Client terminating its use of American Fidelity benefits software.
- Gallagher and the Client mutually agree that Gallagher shall not be liable for services to be provided by American Fidelity.

Retirement Services*: Subject to any changes and additions as may be mutually agreed by the parties in writing, Gallagher will provide the following retirement consulting services:

Vendor Management and Benchmarking

- On-going management of selected vendor
- On-going fee and service negotiations
- Provide Plan Benchmarking (including performance and fees)
- Provide Fee Benchmarking
- Periodic Recordkeeper/Vendor RFP support
- Ongoing plan review and design analysis
- Benchmarking trends in retirement plan savings and administration
- Coordinate development of written recommendations for enhancements, modifications and/or additions

- Service calendar to serve as a multi-year plan and timeline of retirement services provided to the committee and to assist the committee with following the best practices in overseeing the plan
- Support for retirement plan issues

Plan Governance, Compliance & Committee Process Support

- Committee training and education
- Support and documentation of Retirement Committee
- Capture meeting minutes for Committee through onsite meetings or conference calls
- Provide best practice plan governance to assist the Committee on how it is best structured and maintained to make well advised plan decisions
- Monitor potential legal and compliance issues
- Updates on legislative and regulatory changes
- White papers, technical bulletins, webcasts

Participant Communication and Education

- Develop and monitor communication and education strategy in coordination with Plan Vendor and the Gallagher Well-Being Team to assist the committee in establishing goals and metrics to evaluate program effectiveness
- Coordinate strategy with provider
- Monitor communication objectives and benchmarks
- Financial wellness integration with wellness team

**It is understood and agreed that any such services provided by Gallagher does not guarantee that the actions taken will safeguard the Client from liability and that any such services provided by Gallagher shall not constitute the practice of law. Gallagher is not authorized to practice law. Accordingly, the Client should consult with its own legal advisers regarding compliance with applicable law, including without limitation Employee Retirement Income Security Act of 1974 (ERISA) and the U.S. Internal Revenue Code (IRC).*

EXHIBIT B COMPENSATION DISCLOSURE STATEMENT

Line of Coverage/Service	Insurance Company	Commission ¹ / Supplemental Compensation ²	Third Party Compensation	Direct Client Fees ³	Effective Date
Consulting Services	n/a	n/a	n/a	\$80,000	01/01/2018

It should also be noted that:

- Gallagher is not an affiliate of the insurer or vendor whose contract is recommended. This means the insurer or vendor whose contract is recommended does not directly or indirectly have the power to exercise a controlling influence over the management or policies of Gallagher.
- Gallagher's ability to recommend other insurance contracts or vendors is not limited by an agreement with any insurance carrier or vendor and Gallagher is effecting the transaction for applicable plan(s) in the ordinary course of Gallagher business. Thus, pertinent transaction(s) are at least as favorable to the applicable plan(s) as an arm's length transaction with an unrelated party.
- Gallagher is not a trustee of the plan(s) and is neither the Plan Administrator of the plan(s), a Named Fiduciary of the plan(s), nor an employer which has employees in the plan(s).

For Employers and Plan Sponsors Subject to ERISA: This Disclosure Statement is being given to the Client (1) to make sure Client knows about Gallagher's and Gallagher affiliates' income before purchasing an insurance product and (2) for plans subject to ERISA, to comply with the disclosure, acknowledgment and approval requirement of Prohibited Transaction Class Exemption No. 84-24⁴, which protects both Client and Gallagher⁵. Disclosure must be made to an independent plan fiduciary for the ERISA Plan(s), and Client acknowledges and confirms that this is a reasonable transaction in the best interest of participants in its ERISA Plan(s).

For more information on Gallagher's compensation arrangements, please visit www.ajg.com/compensation. In the event a client wishes to register a formal complaint regarding compensation Gallagher receives, please send an email to Compensation_Complaints@ajg.com.

¹ Commissions include all commissions/fees paid to Gallagher that are attributable to a contract or policy between a plan and an insurance company, or insurance service. This includes indirect fees that are paid to Gallagher paid by a third party, and includes, among other things, the payment of "finders' fees" or other fees to Gallagher for a transaction or service involving the plan.

² Gallagher companies may receive supplemental compensation referred to in a variety of terms and definitions, such as contingent commissions, additional commissions and supplemental commissions.

³ Direct Fees include compensation to Gallagher paid for directly by the plan sponsor/Client.

⁴ Which allows an exemption from a prohibited transaction under Section 408(a) of the Employee Retirement Income Security Act of 1974 (ERISA).

⁵ In making these disclosures, no position is taken, nor is one to be inferred, regarding the use of assets of a plan subject to ERISA to purchase such insurance.



City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2017-0669

Agenda Date: 12/5/2017

Version: 1

Status: Agenda Ready

In Control: City Council Meeting

File Type: Resolution

Agenda Number: A. 4

BID #17-57 TRUCK CENTERS:

A RESOLUTION TO AWARD BID #17-57 AND AUTHORIZE THE PURCHASE OF A FREIGHTLINER M2-112 ROLL OFF TRUCK FROM TRUCK CENTERS OF SPRINGDALE, ARKANSAS IN THE AMOUNT OF \$148,663.00 FOR USE BY THE RECYCLING AND TRASH COLLECTION DIVISION

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby awards Bid #17-57 and authorizes the purchase of a Freightliner M2-112 Roll Off Truck from Truck Centers of Springdale, Arkansas in the amount of \$148,663.00 for use by the Recycling and Trash Collection Division.

City of Fayetteville Staff Review Form

2017-0669

Legistar File ID

12/5/2017

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Jesse Beeks/Sara Glenn

11/15/2017

FLEET OPERATIONS (770)

Submitted By

Submitted Date

Division / Department

Action Recommendation:

A resolution to authorize the purchase of one Freightliner M2-112 Roll Off Truck for lowest Bid 17-57 price of \$148,663.00 available through Truck Centers of Arkansas of Springdale, AR for use by the Recycling and Trash Department.

Budget Impact:

9700.770.1920-5802.00

Shop Fund

Account Number

Fund

02082.2017

Solid Waste Vehicles

Project Number

Project Title

Budgeted Item? Yes

Current Budget \$ 272,531.00

Funds Obligated \$ -

Current Balance \$ 272,531.00

Does item have a cost? Yes

Item Cost \$ 148,663.00

Budget Adjustment Attached? No

Budget Adjustment

Remaining Budget \$ 123,868.00

V20140710

Previous Ordinance or Resolution #

Original Contract Number:

Approval Date:

Comments:



MEETING OF DECEMBER 5, 2017

TO: Mayor and City Council

THRU: Terry Gulley, Director of Transportation

FROM: Jesse Beeks, Fleet Operations Superintendent

DATE: November 15, 2017

SUBJECT: Purchase of one Roll Off Truck for Recycling and Trash

RECOMMENDATION:

City Council approve the purchase of one Freightliner M2-112 Roll Off Truck for lowest Bid 17-57 price of \$148,663.00 available through Truck Centers of Arkansas of Springdale, AR for use by the Recycling and Trash Department.

BACKGROUND:

Unit 4003 is a 2010 Peterbilt 320 Roll Off Truck. This unit currently has 84% of its original purchase price in life to date maintenance cost. Recycling and Trash only has 3 Roll Off trucks in their fleet, this is a critical part of their operation and have difficulties when one is down for repair. For that reason, they would like to keep this as a spare unit. That request will be officially submitted when Unit 4003 is replaced and re-evaluated at that time.

DISCUSSION:

Fleet recommends the purchase of one Freightliner M2-112 Roll Off Truck for lowest Bid 17-57 price of \$148,663.00 available through Truck Centers of Arkansas of Springdale, AR for use by the Recycling and Trash Department.

BUDGET/STAFF IMPACT:

Sufficient funds have been collected and budgeted for this purchase.

This item was approved by the Equipment Committee on November 14, 2017.

Attachments:

Bid 17-57



Refuse Roll Off Truck

Bid No. 17-57
Official Bid Tabulation

Bid No. 17-49
Date: 10.05.2017
Time: 2:00 PM

Lionel Jordan, Mayor

Number of Addendums: 0

			MHC Kenworth/ Volvo		Peterbilt of Fort Smith		Shipley Motor Equipment Co.		Truck Centers of Arkansas	
Item	Description	Each	Price Each	Extended Price	Price Each	Extended Price	Price Each	Extended Price	Price Each	Extended Price
1	Cab and Chassis	1	\$ 114,000.00	\$ 114,000.00	\$ 121,754.00	\$ 121,754.00	\$ 129,968.00	\$ 129,968.00	\$ 110,866.00	\$ 110,866.00
Manufacturer			Kenworth		Peterbilt		Mack		Freightliner	
Model			T440		348		Granite 64FR		M2 112	
2	60,000 LB Outside Rail Drop Box Hoist (Installed)	1	\$ 38,254.00	\$ 38,254.00	\$ 46,797.00	\$ 46,797.00	\$ 46,797.00	\$ 46,797.00	\$ 37,797.00	\$ 37,797.00
Manufacturer			Galbreath		G&H		G&H		G&H	
Model			43-OR-174		1560		1560		1560	
Total Base Bid			\$ 152,254.00		\$ 168,551.00		\$ 176,765.00		\$ 148,663.00	

CERTIFIED:

Andree Rennie

[Signature]
Witness

10/12/17
Date

*NOTICE: Bid award is contingent upon vendor meeting minimum specifications and formal authorization by City officials.



City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2017-0671

Agenda Date: 12/5/2017

Version: 1

Status: Agenda Ready

In Control: City Council Meeting

File Type: Resolution

Agenda Number: A. 5

BID #17-58 TRUCK SERVICE CENTER, INC.:

A RESOLUTION TO AWARD BID #17-58 AND AUTHORIZE THE PURCHASE OF A UNICARRIERS PF50LP FORKLIFT FROM LIFT TRUCK SERVICE CENTER, INC. OF SPRINGDALE, ARKANSAS IN THE AMOUNT OF \$23,911.95 FOR USE BY THE WASTEWATER TREATMENT DIVISION

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby awards Bid #17-58 and authorizes the purchase of a Unicarriers PF50LP Forklift from Lift Truck Service Center, Inc. of Springdale, Arkansas in the amount of \$23,911.95 for use by the Wastewater Treatment Division.

City of Fayetteville Staff Review Form

2017-0671

Legistar File ID

12/5/2017

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Jesse Beeks/Sara Glenn

11/15/2017

FLEET OPERATIONS (770)

Submitted By

Submitted Date

Division / Department

Action Recommendation:

A resolution to authorize the purchase of one Unicarriers PF50LP Forklift for lowest bid that met specifications through Bid 17-58 in the amount of \$23,911.95 available through Lift Truck Service Center of Springdale, AR for use by the Wastewater Department.

Budget Impact:

9700.770.1920-5802.00

Shop Fund

Account Number

Fund

02080.2017

Other Vehciles / Equipment

Project Number

Project Title

Budgeted Item? Yes

Current Budget \$ 188,373.00

Funds Obligated \$ -

Current Balance \$ 188,373.00

Does item have a cost? Yes

Item Cost \$ 23,911.95

Budget Adjustment Attached? No

Budget Adjustment

Remaining Budget \$ 164,461.05

V20140710

Previous Ordinance or Resolution #

Original Contract Number:

Approval Date:

Comments:



MEETING OF DECEMBER 5, 2017

TO: Mayor and City Council

THRU: Terry Gulley, Director of Transportation

FROM: Jesse Beeks, Fleet Operations Superintendent

DATE: November 15, 2017

SUBJECT: Purchase of one Forklift for Wastewater

RECOMMENDATION:

City Council approve the purchase of one Unicarriers PF50LP Forklift for lowest bid that met specifications through Bid 17-58 in the amount of \$23,911.95 available through Lift Truck Service Center of Springdale, AR for use by the Wastewater Department.

BACKGROUND:

Unit 9034 is a 2002 Yale Forklift that is approaching 16 years old and no longer functions as efficiently as it used to. It is also currently in need of its third wiring harness and is beginning to have other signs of significant problems.

DISCUSSION:

Fleet recommends the purchase of one Unicarriers PF50LP Forklift for lowest bid that met specifications through Bid 17-58 in the amount of \$23,911.95 available through Lift Truck Service Center of Springdale, AR for use by the Wastewater Department.

BUDGET/STAFF IMPACT:

Sufficient funds have been collected and budgeted for this purchase.

This item was approved by the Equipment Committee on November 14, 2017.

Attachments:

Bid 17-58



Forklift
Bid No. 17-58
Official Bid Tabulation

Bid No. 17-58
Date: 10.04.2017
Time: 3:00 PM

Lioneld Jordan, Mayor

Number of Addendums: 3

Item Description	Forklift				
Bidder	Manufacturer	Model	Price Each	Qty	Total Base Bid
Lift Truck Service Center, Inc. (1 of 2)	Baoli	KBG25	\$ 20,876.00	1	\$ 20,876.00
Lift Truck Service Center, Inc. (2 of 2)	Unicarriers	PF50LP	\$ 23,911.95	1	\$ 23,911.95
LPS Material Handling	Hyundai	25L-7A	\$ 22,768.00	1	\$ 22,768.00
National Lift of Arkansas	Clark	C25L	\$ 24,594.00	1	\$ 24,594.00
Technology International, Inc.	Clark	C25C Triple	\$ 25,825.00	1	\$ 25,825.00
Terex Utilities	NO BID	NO BID	NO BID	NO BID	NO BID

CERTIFIED:


A. Rennie, Purchasing Manager


Witness

10/12/17
Date

*NOTICE: Bid award is contingent upon vendor meeting minimum specifications and formal authorization by City officials.



City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2017-0670

Agenda Date: 12/5/2017

Version: 1

Status: Agenda Ready

In Control: City Council Meeting

File Type: Resolution

Agenda Number: A. 6

BID #17-62 WILLIAMS TRACTOR:

A RESOLUTION TO AWARD BID #17-62 AND AUTHORIZE THE PURCHASE OF TWO BOBCAT E45 T4 COMPACT TRACK EXCAVATORS FROM WILLIAMS TRACTOR OF FAYETTEVILLE, ARKANSAS IN THE TOTAL AMOUNT OF \$83,988.00 FOR USE BY THE WATER AND SEWER OPERATIONS DIVISION

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby awards Bid #17-62 and authorizes the purchase of two Bobcat E45 T4 Compact Track Excavators from Williams Tractor of Fayetteville, Arkansas in the total amount of \$83,988.00 for use by the Water and Sewer Operations Division.

City of Fayetteville Staff Review Form

2017-0670

Legistar File ID

12/5/2017

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Jesse Beeks/Sara Glenn

11/15/2017

FLEET OPERATIONS (770)

Submitted By

Submitted Date

Division / Department

Action Recommendation:

A resolution to authorize the purchase of two Bobcat E45 T4 Compact Track Excavators for lowest Bid 17-62 amount of \$41,994.00 each, for a total of \$83,988.00 available through Williams Tractor of Fayetteville, AR for use by the Water & Sewer Department.

Budget Impact:

9700.770.1920-5802.00

Shop Fund

Account Number

Fund

02077.2016

Construction Equipment

Project Number

Project Title

Budgeted Item? Yes

Current Budget \$ 255,000.00

Funds Obligated \$ -

Current Balance \$ 255,000.00

Does item have a cost? Yes

Item Cost \$ 83,988.00

Budget Adjustment Attached? No

Budget Adjustment

Remaining Budget \$ 171,012.00

V20140710

Previous Ordinance or Resolution #

Original Contract Number:

Approval Date:

Comments:



MEETING OF DECEMBER 5, 2017

TO: Mayor and City Council

THRU: Terry Gulley, Director of Transportation

FROM: Jesse Beeks, Fleet Operations Superintendent

DATE: November 15, 2017

SUBJECT: Purchase of two Excavators for Water & Sewer

RECOMMENDATION:

City Council approve the purchase of two Bobcat E45 T4 Compact Track Excavators for lowest Bid 17-62 amount of \$41,994.00 each, for a total of \$83,988.00 available through Williams Tractor of Fayetteville, AR for use by the Water & Sewer Department.

BACKGROUND:

Unit 815 is a 2007 Bobcat 435 Excavator with 116% of the original purchase price in life to date maintenance cost. It has exceeded the 8 year life expectancy.

Unit 817 is a 2008 Bobcat 329 Excavator with 68% of the original purchase price in life to date maintenance cost. It has exceeded the 6 year life expectancy. This is a smaller excavator and no longer fits the needs of Water & Sewer.

DISCUSSION:

Fleet recommends the purchase of two Bobcat E45 T4 Compact Track Excavators for lowest Bid 17-62 amount of \$41,994.00 each, for a total of \$83,988.00 available through Williams Tractor of Fayetteville, AR for use by the Water & Sewer Department.

BUDGET/STAFF IMPACT:

Sufficient funds have been collected and budgeted for this purchase.

This item was approved by the Equipment Committee on November 14, 2017.

Attachments:

Bid 17-62



Compact Track Excavator

Bid No. 17-62
Official Bid Tabulation

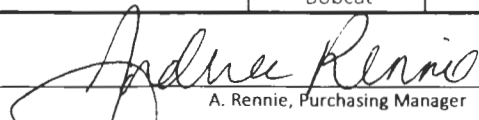
Bid No. 17-62
Date: 10.03.2017
Time: 2:00 PM

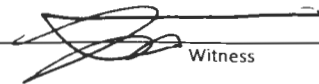
Lionel Jordan, Mayor

Number of Addendums: 0

Item Description	Compact Track Excavator				
Bidder	Manufacturer	Model	Price Each	Qty	Total Base Bid
Hugg & Hall Equipment	Volvo	ECR58D	\$ 56,918.00	2	\$ 113,836.00
Riggs Cat	Caterpillar	305 E2	\$ 53,878.00	2	\$ 107,756.00
Springdale Tractor	Kubota	U55	\$ 50,500.00	2	\$ 101,000.00
Stribling Equipment	John Deere	50G	\$ 53,665.13	2	\$ 107,330.26
Terex Utilities	NO BID	NO BID	\$ -	-	NO BID
Williams Tractor	Bobcat	E45 T4	\$ 41,994.00	2	\$ 83,988.00

CERTIFIED:


A. Rennie, Purchasing Manager


Witness

10/12/17
Date

*NOTICE: Bid award is contingent upon vendor meeting minimum specifications and formal authorization by City officials.



City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2017-0668

Agenda Date: 12/5/2017

Version: 1

Status: Agenda Ready

In Control: City Council Meeting

File Type: Resolution

Agenda Number: A. 7

BID #17-63 HENARD UTILITY, INC.:

A RESOLUTION TO AWARD BID #17-63 AND AUTHORIZE THE PURCHASE OF A SECA SEWER JETTER TRUCK FROM HENARD UTILITY, INC. OF SEARCY, ARKANSAS IN THE AMOUNT OF \$217,575.00 FOR USE BY THE WATER AND SEWER OPERATIONS DIVISION

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby awards Bid #17-63 and authorizes the purchase of a Seca Sewer Jetter Truck from Henard Utility, Inc. of Searcy, Arkansas in the amount of \$217,575.00 for use by the Water and Sewer Operations Division.

City of Fayetteville Staff Review Form

2017-0668

Legistar File ID

12/5/2017

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Jesse Beeks/Sara Glenn

11/15/2017

FLEET OPERATIONS (770)

Submitted By

Submitted Date

Division / Department

Action Recommendation:

A resolution to authorize the purchase of one Seca Sewer Jetter Truck for lowest Bid 17-63 price of \$217,575.00 available through Henard Utility Products, Inc. of Searcy, AR for use by the Water & Sewer Department.

Budget Impact:

9700.770.1920-5802.00

Shop Fund

Account Number

Fund

02080.2016

Other Vehicles / Equipment

Project Number

Project Title

Budgeted Item? Yes

Current Budget \$ 405,948.00

Funds Obligated \$ -

Current Balance \$ 405,948.00

Does item have a cost? Yes

Item Cost \$ 217,575.00

Budget Adjustment Attached? No

Budget Adjustment

Remaining Budget \$ 188,373.00

V20140710

Previous Ordinance or Resolution #

Original Contract Number:

Approval Date:

Comments:



MEETING OF DECEMBER 5, 2017

TO: Mayor and City Council

THRU: Terry Gulley, Director of Transportation

FROM: Jesse Beeks, Fleet Operations Superintendent

DATE: November 15, 2017

SUBJECT: Purchase of one Sewer Jetter Truck for Water & Sewer

RECOMMENDATION:

City Council approve the purchase of one Seca Sewer Jetter Truck for lowest Bid 17-63 price of \$217,575.00 available through Henard Utility Products, Inc. of Searcy, AR for use by the Water & Sewer Department.

BACKGROUND:

Unit 9112 is a 2008 Freightliner M2106 Sewer Jetter Truck. This unit has exceeded its 8 year life expectancy and near to the 8,000 hour expectancy.

DISCUSSION:

Fleet recommends the purchase of one Seca Sewer Jetter Truck for lowest Bid 17-63 price of \$217,575.00 available through Henard Utility Products, Inc. of Searcy, AR for use by the Water & Sewer Department.

BUDGET/STAFF IMPACT:

Sufficient funds have been collected and budgeted for this purchase.

This item was approved by the Equipment Committee on November 14, 2017.

Attachments:

Bid 17-63



CITY OF
FAYETTEVILLE
ARKANSAS

Truck Mounted Sewer Jetter Re-Bid

Bid No. 17-63
Official Bid Tabulation

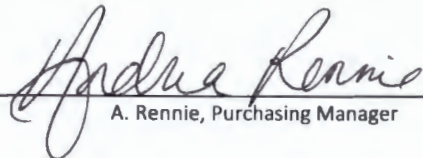
Bid No. 17-63
Date: 10.04.2017
Time: 2:00 PM

Lioneld Jordan, Mayor

Number of Addendums: 0

			Environmental Products Mid-South	Henard Utility Products, Inc.
Item	Description	Each	Price Each	Price Each
1	Truck Mounted Sewer Jetter	1	\$ 230,201.64	\$ 217,575.00
Manufacturer			Vactor	SECA
Model			Ramjet	800-HPR-ECO
Total Base Bid			\$ 230,201.64	\$ 217,575.00

CERTIFIED:


A. Rennie, Purchasing Manager


Witness

10/12/17
Date

*NOTICE: Bid award is contingent upon vendor meeting minimum specifications and formal authorization by City officials.



City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2017-0667

Agenda Date: 12/5/2017

Version: 1

Status: Agenda Ready

In Control: City Council Meeting

File Type: Resolution

Agenda Number: A. 8

SPRING STREET PARKING DECK FUND:

A RESOLUTION TO CLOSE THE SPRING STREET PARKING DECK FUND, TRANSFER ABOUT \$243,431.00 REMAINING IN THAT FUND TO THE PARKING FUND AND TO APPROVE THE ATTACHED BUDGET ADJUSTMENT

WHEREAS, the Spring Street Parking Deck has been completed with all expenses now paid out of the Spring Street Parking Deck Fund leaving a balance of about \$243,431.00; and

WHEREAS, this balance should be transferred to the Parking Fund which is charged with paying off the bonds that funded the Spring Street Parking Deck Fund.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby closes the Spring Street Parking Deck Fund, transfers about \$243,431.00 remaining in that fund to the Parking Fund and approves the attached budget adjustment.

City of Fayetteville Staff Review Form

2017-0667

Legistar File ID

12/5/2017

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Paul Becker

11/15/2017

CHIEF FINANCIAL OFFICER (110)

Submitted By

Submitted Date

Division / Department

Action Recommendation:

Closure of the Parking Deck Construction Fund and transfer of the remaining cash balance to the Parking Fund and approval of the attached budget adjustment.

Budget Impact:

4560.900.9560-7602.15

Parking Deck Construction Fund

Account Number

Fund

Project Number

Project Title

Budgeted Item? No

Current Budget

\$ -

Funds Obligated

\$ -

Current Balance

\$ -

Does item have a cost? Yes

Item Cost

\$ 243,431.00

Budget Adjustment Attached? Yes

Budget Adjustment

\$ 243,431.00

Remaining Budget

\$ -

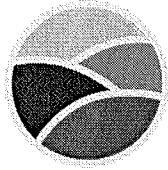
V20140710

Previous Ordinance or Resolution #

Original Contract Number:

Approval Date:

Comments:



**CITY OF
FAYETTEVILLE
ARKANSAS**

CITY COUNCIL MEMO

MEETING OF DECEMBER 5, 2017

TO: Mayor and City Council
FROM: Paul A Becker, Chief Financial Officer
DATE: November 15, 2017

SUBJECT: Closure of the Parking Deck Construction Fund and transfer of the remaining cash balance to the Parking Fund and approval of the attached budget adjustment.

RECOMMENDATION:

To close the Parking Deck Construction Fund and transfer the remaining cash balance to the Parking Fund and to approve the attached budget adjustment.

DISCUSSION:

The final expenditures associated with the construction of the Spring Street Parking Deck have been completed. As of November 2017, a total of \$243,431 remains unexpended in the fund. Since a portion of funding for this construction fund was transferred from the Parking Fund and because the debt service payments which pay off the bonds issued (which was the primary funding source for this project) is made from the Parking Fund, it is recommended that the remaining balance in the Construction Fund be transferred to the said Parking Fund.

BUDGET/STAFF IMPACT:

There is no expenditure of funds associated with this request.

Attachments:

Staff Review form
City Council Memo
Budget Adjustment

City of Fayetteville, Arkansas - Budget Adjustment Form (Legistar)

Budget Year 2017	Division /Org2 CHIEF FINANCIAL OFFICER (110) Requestor: Barbara Fell	Adjustment Number
----------------------------	--	--------------------------

BUDGET ADJUSTMENT DESCRIPTION / JUSTIFICATION:

To close the Parking Deck Construction Fund and transfer the remaining cash balance to the Parking Fund.

RESOLUTION/ORDINANCE	COUNCIL DATE:	12/5/2017
	LEGISTAR FILE ID#:	2017-0667
	<i>Barbara Fell</i> 11/15/2017 9:22 AM	
	Budget Director	Date
	TYPE:	
	DESCRIPTION:	
	GLDATE:	
	POSTED:	/

TOTAL		41,541	41,541				v.20170707
Account Number	Increase / (Decrease)		Project.Sub#		AT	Account Name	
	Expense	Revenue	Project	Sub			
4530.900.9560-5314.00	(19,346)	-		1202	EX	**Professional Services - :	
4560.900.9560-5804.00	(90,185)			1203	EX	Building Costs - Building Costs	
4560.900.9560-5307.00	1,000			1301	EX	Audit Expense - :	
4560.900.9560-5314.00	(2,000)			1301	EX	Professional Services - :	
4560.900.9560-5804.00	(34,859)			1301	EX	Building Costs - Building Costs	
4560.900.9560-5804.00	(37,534)			1601	EX	Building Costs - Building Costs	
4560.900.9560-5801.00	(180)			1602	EX	Fixed Assets - :	
4560.900.9560-5804.00	(10,493)			1602	EX	Building Costs - Building Costs	
4560.900.9560-5210.00	(3,469)			1603	EX	Minor Equipment - :	
4560.900.9560-5804.00	2,216			1603	EX	Building Costs - Building Costs	
4560.900.9560-5801.00	(4,040)			1701	EX	Fixed Assets - :	
4560.900.9560-5307.00	(3,000)			9001	EX	Audit Expense - :	
4560.900.9560-7602.15	243,431				EX	Transfers To Funds - Parking Fund	
4560.900.9560-4999.99		41,541			RE	**Use Fund Balance - Current	



City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2017-0672

Agenda Date: 12/5/2017

Version: 1

Status: Agenda Ready

In Control: City Council Meeting

File Type: Resolution

Agenda Number: A. 9

BKD, LLP:

A RESOLUTION TO APPROVE A ONE YEAR CONTRACT WITH BKD, LLP FOR AUDITING SERVICES FOR THE 2017 AUDIT, WITH AN OPTION TO RENEW FOR UP TO FOUR ADDITIONAL ONE YEAR TERMS

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby approves a one-year contract with BKD, LLP for 2017 financial audit services, with an option to renew for up to four additional one year terms.

City of Fayetteville Staff Review Form

2017-0672

Legistar File ID

12/5/2017

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Marsha Hertweck

11/16/2017

ACCOUNTING & AUDIT (131)

Submitted By

Submitted Date

Division / Department

Action Recommendation:

Approval of the first year of a five year contract with BKD,LLP for annual audit services for the City's 2017 financial audit.

Budget Impact:

various funds

Account Number

Fund

Project Number

Project Title

Budgeted Item? Yes

Current Budget

\$ -

Funds Obligated

\$ -

Current Balance

\$ -

Does item have a cost? Yes

Item Cost

Budget Adjustment Attached? No

Budget Adjustment

Remaining Budget

\$ -

V20140710

Previous Ordinance or Resolution #

Original Contract Number:

Approval Date:

Comments:



MEETING OF DECEMBER 5, 2017

TO: Mayor and City Council
FROM: Marsha Hertweck, Accounting Director
DATE: November 16, 2017
SUBJECT: BKD, LLP contract

RECOMMENDATION:

Approval of the first year of a five year contract with BKD,LLP for annual audit services for the City's 2017 financial audit.

BACKGROUND:

The City is required by Arkansas statutes to have an annual financial audit by either Legislative Audit or a Certified Public Accounting firm licensed in Arkansas. Because of the requirements of the City's bond indentures, the City has utilized the services of a private CPA firm to perform these mandated financial audits.

BKD,LLP was selected by the City, following the applicable rules and regulations concerning the procurement of auditing services, for a five year contract beginning with the 2017 audit. Under the contract BKD will provide an annual audit of the City's financial statements and a review of the City's internal control system as required by state law. In addition, BKD will issue a report on compliance for the City's major federal awards programs and on internal controls over compliance as required by the Uniform Guidance. The Uniform Guidance program is the primary mechanism used by federal agencies to ensure accountability for federal awards to non-federal entities.

Finally, BKD will also provide technical assistance to the City in producing the Comprehensive Annual Financial Report (CAFR). The CAFR includes the City's financial statements as well as statistical information.

DISCUSSION:

Staff is recommending approval of the contract with BKD,LLP for the first year of auditing services for the 2017 annual audit. The first year of the contract with BKD has maximum fees of \$99,000.

BUDGET/STAFF IMPACT:

The cost of the 2017 audit is \$99,000. The audit has been budgeted in the various funds of the City in the 2018 budget.

Attachments:

Staff Review form

City Council Memo

Original Contract

November 3, 2017

Board of Directors
Lioneld Jordan, Mayor
Sondra Smith, City Clerk
Paul Becker, Chief Financial Officer
City of Fayetteville, Arkansas
113 W. Mountain Street
Fayetteville, AR 72701

We are pleased to confirm the arrangements of our engagement and the nature of the services we will provide to the City of Fayetteville, Arkansas (the City).

ENGAGEMENT OBJECTIVES AND SCOPE

We will audit the basic financial statements of the City as of and for the year ended December 31, 2017, and the related notes to the financial statements.

Our audit will be conducted with the objectives of:

- ✓ Expressing an opinion on the financial statements.
- ✓ Issuing a report on your compliance based on the audit of your financial statements.
- ✓ Issuing a report on your internal control over financial reporting based on the audit of your financial statements.
- ✓ Expressing an opinion on your compliance, in all material respects, with the types of compliance requirements described in the *U.S. Office of Management and Budget (OMB) Compliance Supplement* that are applicable to each of your major federal award programs.
- ✓ Issuing a report on your internal control over compliance based on the audit of your compliance with the types of compliance requirements that are applicable to each of your major federal award programs.
- ✓ Issuing a report on your schedule of expenditures of federal awards.

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OUR RESPONSIBILITIES

We will conduct our audit in accordance with auditing standards generally accepted in the United States of America (GAAS), the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States and Title 2 U.S. Code of Federal Regulations (CFR) Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). Those standards require that we plan and perform:

- ✓ The audit of the financial statements to obtain reasonable rather than absolute assurance about whether the financial statements are free of material misstatement, whether caused by fraud or error.
- ✓ The audit of compliance with the types of compliance requirements described in the *OMB Compliance Supplement* applicable to each major federal award program to obtain reasonable rather than absolute assurance about whether noncompliance having a direct and material effect on a major federal award program occurred.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to error or fraud. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

Because of the inherent limitations of an audit, together with the inherent limitations of internal control, an unavoidable risk that some material misstatements or noncompliance having a direct and material effect may not be detected exists, even though the audit is properly planned and performed in accordance with GAAS.

In making our risk assessments, we consider internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. However, we will communicate to you in writing concerning any significant deficiencies or material weaknesses in internal control relevant to the audit of the financial statements that we have identified during the audit. Also, in the future, procedures could become inadequate because of changes in conditions or deterioration in design or operation. Two or more people may also circumvent controls, or management may override the system.

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We are available to perform additional procedures with regard to fraud detection and prevention at your request, subject to completion of our normal engagement acceptance procedures. The actual terms and fees of such an engagement would be documented in a separate letter to be signed by you and BKD.

Andy Richards, Partner is responsible for supervising the engagement and authorizing the signing of the report or reports.

We will issue a written report upon completion of our audit of the City's financial statements. Our report will be addressed to the City Council of the City of Fayetteville, Arkansas. We cannot provide assurance that an unmodified opinion will be expressed. Circumstances may arise in which it is necessary for us to modify our opinion, add an emphasis of matter or other matter paragraph(s), or withdraw from the engagement. If we discover conditions that may prohibit us from issuing a standard report, we will notify you as well. In such circumstances, further arrangements may be necessary to continue our engagement.

We will also express an opinion on whether the City's combining and individual fund statements and schedules, and the schedule of expenditures of federal and state awards ("supplementary information") are fairly stated, in all material respects, in relation to the financial statements as a whole.

YOUR RESPONSIBILITIES

Our audit will be conducted on the basis that management acknowledge and understand that they have responsibility:

- a. for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America;
- b. for the design, implementation and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error;
- c. for identifying and ensuring compliance with the laws, regulations, contracts and grants applicable to your activities including your federal award programs; and

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d. to provide us with

- i. access to all information of which management is aware that is relevant to the preparation and fair presentation of the financial statements such as records, documentation and other matters;
- ii. additional information that we may request from management for the purpose of the audit; and
- iii. unrestricted access to persons within the entity from whom we determine it necessary to obtain audit evidence.

As part of our audit process, we will request from management written confirmation acknowledging certain responsibilities outlined in this engagement letter and confirming:

- The availability of this information
- Certain representations made during the audits for all periods presented
- The effects of any uncorrected misstatements, if any, resulting from errors or fraud aggregated by us during the current engagement and pertaining to the latest period presented are immaterial, both individually and in the aggregate, to the financial statements taken as a whole

The results of our tests of compliance and internal control over financial reporting performed in connection with our audit of the financial statements may not fully meet the reasonable needs of report users. Management is responsible for obtaining audits, examinations, agreed-upon procedures or other engagements that satisfy relevant legal, regulatory or contractual requirements or fully meet other reasonable user needs.

With regard to supplementary information:

- Management is responsible for its preparation in accordance with applicable criteria
- Management will provide certain written representations regarding the supplementary information at the conclusion of our engagement
- Management will include our report on this supplementary information in any document that contains this supplementary information and indicates we have reported on the supplementary information
- Management will make the supplementary information readily available to intended users if it is not presented with the audited financial statements

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OTHER SERVICES

The City's Compliance with Certain State Acts

We will examine management's written assertion that the City complied with certain state acts during the year ended December 31, 2017.

The objective of our examination is the expression of an opinion in a written report about whether the responsible party's assertion is fairly stated, in all material respects, with the applicable criteria against which it is measured or evaluated.

The criteria to be used consist of the requirements of Arkansas Act 15 of 1985 and the following Arkansas statutes:

- Arkansas Municipal Accounting Law of 1973, § 14-59-101 et seq.;
- Arkansas District Courts and City Courts Accounting Law, § 16-10-201 et seq.;
- Improvement contracts, §§ 22-9-202 – 22-9-204;
- Budgets, purchases, and payments of claims, etc., § 14-58-201 et seq. and § 14-58-301 et seq.;
- Investment of public funds, § 19-1-501 et seq.; and
- Deposit of public funds, §§ 19-8-101 – 19-8-107

We will conduct our examination in accordance with attestation standards established by the American Institute of Certified Public Accountants. Those standards require that we plan and perform the examination to obtain reasonable, rather than absolute, assurance about whether the subject matter as measured or evaluated against the criteria is free of material misstatement.

Because of the inherent limitations of an examination engagement, together with the inherent limitations of internal control, an unavoidable risk that some material misstatements may not be detected exists, even though the examination is properly planned and performed in accordance with the attestation standards.

Our engagement will not include a detailed examination of every transaction and cannot be relied on to disclose all errors, fraud or illegal acts that may exist. However, we will inform you of any such matters, if material, that come to our attention.

We cannot provide assurance that an unmodified opinion will be expressed. Circumstances may arise in which it is necessary for us to modify our opinion or withdraw from the engagement. If we discover conditions which may prohibit us from issuing a standard examination report, we will notify you. In such circumstances, further arrangements may be necessary to continue our engagement.

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To facilitate our engagement, management is responsible for providing a written assertion about the measurement or evaluation of the subject matter against the criteria, supplying us with all necessary information and for allowing us access to personnel to assist in performing our services. It should be understood that management is responsible for the accuracy and completeness of these items, for the subject matter and the written assertion(s) referred to above and for selecting and determining the appropriateness of the criteria.

At the conclusion of our engagement, management will provide to us a letter confirming these responsibilities, whether it is aware of any material misstatements in the subject matter or assertion, and that it has disclosed all known events subsequent to the period (or point in time) of the subject matter being reported on that would have a material effect on the subject matter or assertion.

Management is responsible for establishing and maintaining effective internal control over financial reporting and setting the proper tone; creating and maintaining a culture of honesty and high ethical standards; and establishing appropriate controls to prevent, deter and detect fraud and illegal acts. Management is also responsible for identifying and ensuring compliance with the laws and regulations applicable to your activities and for establishing and maintaining effective internal control over compliance.

Other

We may perform other services for you not covered by this engagement letter. You agree to assume full responsibility for the substantive outcomes of the services described above and for any other services that we may provide, including any findings that may result. You also acknowledge that those services are adequate for your purposes and that you will establish and monitor the performance of those services to ensure that they meet management's objectives. Any and all decisions involving management responsibilities related to those services will be made by you, and you accept full responsibility for such decisions. We understand that you will designate a management-level individual to be responsible and accountable for overseeing the performance of those services, and that you will have determined this individual is qualified to conduct such oversight.

ENGAGEMENT FEES

The fee for our services will be \$99,000.

Our pricing for this engagement and our fee structure are based upon the expectation that our invoices will be paid promptly. We will issue progress billings during the course of our engagement, and payment of our invoices is due upon receipt.

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The following new accounting standards are effective for your fiscal year ending December 31, 2017.

- GASB Statement No. 73 – *Accounting and Financial Reporting for Pensions and Related Assets That are Not within the Scope of GASB 68, and Amendments to Certain Provisions of GASB Statements 67 and 68*
- GASB Statement No. 74 – *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*
- GASB Statement No. 80 – *Blending Requirements for Certain Component Units – an amendment of GASB Statement No. 14*
- GASB Statement No. 81 – *Irrevocable Split-Interest Agreements*

The impact of these standards on your financial statements will depend on your facts and circumstances. You should evaluate the effect of these standards well in advance of your fiscal year to obtain any additional information necessary and effectively implement them. Our fees do not include time to assist you with implementing these standards. Should you require assistance, our fees will increase.

Our fees are based upon the understanding that your personnel will be available to assist us. Assistance from your personnel is expected to include:

- Preparing audit schedules to support all significant balance sheet and certain other accounts
- Responding to auditor inquiries
- Preparing audit confirmation and other letters
- Pulling selected invoices and other documents from files
- Helping to resolve any differences or exceptions noted

We will provide you with a detailed list of assistance and schedules required and the date such assistance and schedules are to be provided before the audit begins. All schedules should be provided in electronic form unless indicated otherwise.

Our timely completion of the audit depends on your timely and accurate schedule and analyses preparation and on the availability of your personnel to provide other assistance. If there are inaccuracies or delays in preparing this material, or if we experience other assistance difficulties that add a significant amount of time to our work, our fees will increase.

Our engagement fee does not include any time for post-engagement consultation with your personnel or third parties, consent letters and related procedures for the use of our reports in offering documents, inquiries from regulators or testimony or deposition regarding any subpoena. Charges for such services will be billed separately.

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Our fees may also increase if our duties or responsibilities are increased by rulemaking of any regulatory body or any additional new accounting or auditing standards.

If our invoices for this or any other engagement you may have with BKD are not paid within 30 days, we may suspend or terminate our services for this or any other engagement. In the event our work is suspended or terminated as a result of nonpayment, you agree we will not be responsible for any consequences to you.

OTHER ENGAGEMENT MATTERS AND LIMITATIONS

BKD is not acting as your municipal advisor under Section 15B of the *Securities Exchange Act of 1934*, as amended. As such, BKD is not recommending any action to you and does not owe you a fiduciary duty with respect to any information or communications regarding municipal financial products or the issuance of municipal securities. You should discuss such information or communications with any and all internal or external advisors and experts you deem appropriate before acting on any such information or material provided by BKD.

Our workpapers and documentation retained in any form of media for this engagement are the property of BKD. We can be compelled to provide information under legal process. In addition, we may be requested by regulatory or enforcement bodies to make certain workpapers available to them pursuant to authority granted by law or regulation. You agree that we have no legal responsibility to you in the event we provide such documents or information.

To the extent allowed by law, you agree to indemnify and hold harmless BKD and its personnel from any claims, liabilities, costs and expenses relating to our services under this agreement attributable to false or incomplete representations by management, except to the extent determined to have resulted from the intentional or deliberate misconduct of BKD personnel without, however, waiving any governmental immunity available to the City under Arkansas law and without waiving any defenses of the parties under Arkansas law.

The parties hereby agree that any litigation arising under this agreement will be submitted to the exclusive jurisdiction of the Courts of Washington County, Arkansas. The parties consent to the personal jurisdiction of these courts, and waive any objection that such venue is inconvenient or improper.

You agree that any dispute regarding this engagement will, prior to resorting to litigation, be submitted to mediation upon written request by either party. Both parties agree to try in good faith to settle the dispute in mediation. The American Arbitration Association will administer any such mediation in accordance with its Commercial Mediation Rules. The results of the mediation proceeding shall be binding only if each of us agrees to be bound. We will share any costs of mediation proceedings equally.

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City of Fayetteville, Arkansas
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Either of us may terminate these services at any time. Both of us must agree, in writing, to any future modifications or extensions. If services are terminated, you agree to pay us for time expended to date. In addition, you will be billed travel costs and fees for services from other professionals, if any, as well as an administrative fee of 4% to cover items such as copies, postage and other delivery charges, supplies, technology-related costs such as computer processing, software licensing, research and library databases and similar expense items.

If any provision of this agreement is declared invalid or unenforceable, no other provision of this agreement is affected and all other provisions remain in full force and effect.

This engagement letter represents the entire agreement regarding the services described herein and supersedes all prior negotiations, proposals, representations or agreements, written or oral, regarding these services. It shall be binding on heirs, successors and assigns of you and BKD.

We may from time to time utilize third-party service providers, *e.g.*, domestic software processors or legal counsel, or disclose confidential information about you to third-party service providers in serving your account. We remain committed to maintaining the confidentiality and security of your information. Accordingly, we maintain internal policies, procedures and safeguards to protect the confidentiality of your information. In addition, we will secure confidentiality agreements with all service providers to maintain the confidentiality of your information. In the event we are unable to secure an appropriate confidentiality agreement, you will be asked to provide your consent prior to the sharing of your confidential information with the third-party service provider.

We will, at our discretion or upon your request, deliver financial or other confidential information to you electronically via email or other mechanism. You recognize and accept the risk involved, particularly in email delivery, as the internet is not necessarily a secure medium of communication as messages can be intercepted and read by those determined to do so.

You agree you will not modify these documents for internal use or for distribution to third parties. You also understand that we may on occasion send you documents marked as draft and understand that those are for your review purpose only, should not be distributed in any way and should be destroyed as soon as possible.

If you intend to include these financial statements and our report in an offering document at some future date, you agree to seek our permission to do so at that time. You agree to provide reasonable notice to allow sufficient time for us to perform certain additional procedures. Any time you intend to publish or otherwise reproduce these financial statements and our report and make reference to our firm name in any manner in connection therewith, you agree to provide us with printers' proofs or masters for our review and approval before printing or other reproduction. You will also provide us with a copy of the final reproduced material for our approval before it is distributed. Our fees for such services are in addition to those discussed elsewhere in this letter.

Board of Directors
Honorable Lioneld Jordan, Mayor
Mrs. Sondra Smith, City Clerk
Paul Becker, Chief Financial Officer
City of Fayetteville, Arkansas
Page 10

You agree to notify us if you desire to place these financial statements or our report thereon along with other information, such as a report by management or those charged with governance on operations, financial summaries or highlights, financial ratios, etc., on an electronic site. You recognize that we have no responsibility as auditors to review information contained in electronic sites.

Any time you intend to reference our firm name in any manner in any published materials, including on an electronic site, you agree to provide us with draft materials for our review and approval before publishing or posting such information.

Nothing contained herein is intended to restrict the City's ability to respond to a Freedom of Information Act request. Therefore, the notification and approval requirements applicable to the distribution of our report do not apply to the City's response to a Freedom of Information Act, or to the posting of our reports, in their entirety, on the City's website.

BKD is a registered limited liability partnership under Missouri law. Under applicable professional standards, partners of **BKD, LLP** have the same responsibilities as do partners in a general accounting and consulting partnership with respect to conformance by themselves and other professionals in BKD with their professional and ethical obligations. However, unlike the partners in a general partnership, the partners in a registered limited liability partnership do not have individual civil liability, directly or indirectly, including by way of indemnification, contribution, assessment or otherwise, for any debts, obligations or liabilities of or chargeable to the registered limited liability partnership or each other, whether arising in tort, contract or otherwise.

HIPAA BUSINESS ASSOCIATE AGREEMENT

We agree not to use or disclose Protected Health Information of your employees (hereinafter referred to as "PHI") obtained or produced in any form of media during the course of our work in a manner prohibited by HIPAA, as amended. We may use or disclose PHI for purposes of (a) performing our engagement, (b) management and administration of BKD, or (c) carrying out legal responsibilities of BKD. We will not further disclose information except as permitted or required by this contract or as required by law. When using or disclosing PHI in relation to this engagement, we will limit disclosures as required by HIPAA. We will not use PHI in any marketing activities in a manner that would violate HIPAA. We represent to you that we have implemented what we consider to be appropriate administrative, physical and technical safeguards to protect the confidentiality, integrity and availability of your PHI as required for us as a business associate to comply with HIPAA.

Board of Directors
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With respect to your PHI, we will report to you any breach (as defined in 45 CFR 164.402), material security incident or use or disclosure not authorized by this agreement and, to the extent practical, assist you in mitigating any harmful effects caused by breaches, material security incidents or unauthorized uses or disclosures of which we become aware. To assist you in fulfilling your responsibility to notify impacted individuals and others of a breach involving unsecured PHI (as required under 45 CFR 164.400 et seq.), in this report we will identify to you, to the extent reasonably possible:

1. Each individual whose unsecured PHI was subject to the breach.
2. Any other available information you are required to include in your notification to such individual(s) or others under 45 CFR 164.404(c).

We agree that any material violation of these confidentiality provisions by us entitles you to terminate this engagement. Similarly, if we become aware of a violation of HIPAA by you that cannot be or is not timely cured, we may be obligated to terminate this engagement.

BKD agrees to:

1. Upon their request, make available to the Secretary of Health and Human Services (HHS) our internal practices and books and records relating to the use and disclosure of PHI for purposes of determining your compliance with the Security and Privacy Rule, subject to any applicable legal privileges.
2. Make available information necessary for you to make an accounting of disclosures of PHI about an individual.
3. To the extent we maintain information that is part of a Designated Record Set, make available information necessary for you to respond to requests by individuals for access to PHI that is not in your possession but is considered part of a Designated Record Set.
4. Upon receipt of a written request from you, incorporate any amendments or corrections to PHI contained in our workpapers in accordance with the Security and Privacy Rule to the extent such PHI is considered part of a Designated Record Set.

For purposes of this agreement, the term "Security and Privacy Rule" refers to the final rules published to implement the Administrative Simplification provisions of the *Health Insurance Portability and Accountability Act of 1996*, specifically 45 CFR Parts 160 and 164. The terms "Protected Health Information" and "Designated Record Set" have the same meaning as defined in the Security and Privacy Rule.

At the conclusion or termination of this engagement, any PHI retained by us will be subject to the same safeguards as for active engagements.

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We will obtain from any agents, including subcontractors, to whom we provide PHI received from you, or created or received by us on behalf of you, an agreement to the same restrictions and conditions that apply to us with respect to such PHI.

To the extent that any relevant provision of HIPAA is eliminated or held to be invalid by a court of competent jurisdiction, the corresponding portion of this agreement shall be deemed of no force and effect for any purpose. To the extent that any relevant provision of HIPAA is materially amended in a manner that changes the obligations of business associates or covered entities that are embodied in term(s) of this engagement, the Parties agree to negotiate in good faith appropriate amendment(s) to this engagement to give effect to such revised obligations. In addition, the terms of this engagement should be construed in light of any interpretation and/or guidance on HIPAA issued by HHS from time to time.

Government Auditing Standards require that we provide you with a copy of our most recent external peer review report and any letter of comment, and any subsequent peer review reports and letters of comment received during the period of the contract. Our most recent peer review report accompanies this letter.

Please sign and return the attached copy of this letter to indicate your acknowledgement of, and agreement with, the arrangements for our audit of the financial statements including our respective responsibilities. If the signed copy you return to us is in electronic form, you agree that such copy shall be legally treated as a "duplicate original" of this agreement.

BKD, LLP

BKD, LLP

Acknowledged and agreed to on behalf of

CITY OF FAYETTEVILLE, ARKANSAS

BY _____
Lioneld Jordan, Mayor

DATE _____

BY _____
Paul Becker, Chief Financial Officer

DATE _____

Enclosure



8550 United Plaza Blvd., Ste. 1001 – Baton Rouge, LA 70809
225-922-4600 Phone – 225-922-4611 Fax – pncpa.com

Postlethwaite & Netterville and Associates, L.L.C.

Report on the Firm's System of Quality Control

To the Partners of
BKD, LLP
and the National Peer Review Committee

We have reviewed the system of quality control for the accounting and auditing practice of BKD, LLP (the firm) applicable to engagements not subject to PCAOB inspection in effect for the year ended May 31, 2017. Our peer review was conducted in accordance with the Standards for Performing and Reporting on Peer Reviews established by the Peer Review Board of the American Institute of Certified Public Accountants (Standards).

A summary of the nature, objectives, scope, limitations of, and the procedures performed in a System Review as described in the Standards may be found at www.aicpa.org/prsummary. The summary also includes an explanation of how engagements identified as not performed or reported in conformity with applicable professional standards, if any, are evaluated by a peer reviewer to determine a peer review rating.

Firm's Responsibility

The firm is responsible for designing a system of quality control and complying with it to provide the firm with reasonable assurance of performing and reporting in conformity with applicable professional standards in all material respects. The firm is also responsible for evaluating actions to promptly remediate engagements deemed as not performed or reported in conformity with professional standards, when appropriate, and for remediating weaknesses in its system of quality control, if any.

Peer Reviewer's Responsibility

Our responsibility is to express an opinion on the design of the system of quality control and the firm's compliance therewith based on our review.

Required Selections and Considerations

Engagements selected for review included engagements performed under *Government Auditing Standards*, including compliance audits under Single Audit Act; audits of employee benefit plans, audits performed under FDICIA, an audit of carrying broker-dealers, and examinations of service organizations [SOC 1 and SOC 2 engagements].

As part of our peer review, we considered reviews by regulatory entities as communicated to the firm, if applicable, in determining the nature and extent of our procedures.

Opinion

In our opinion, the system of quality control for the accounting and auditing practice of BKD, LLP applicable to engagements not subject to PCAOB inspection in effect for the year ended May 31, 2017, has been suitably designed and complied with to provide the firm with reasonable assurance of performing and reporting in conformity with applicable professional standards in all material respects. Firms can receive a rating of *pass*, *pass with deficiency(ies)* or *fail*. BKD, LLP has received a peer review rating of *pass*.

Postlethwaite & Netterville

Baton Rouge, Louisiana
October 6, 2017



City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2017-0652

Agenda Date: 12/5/2017

Version: 1

Status: Agenda Ready

In Control: City Council Meeting

File Type: Resolution

Agenda Number: A. 10

BID #17-56 81 CONSTRUCTION GROUP, INC.:

A RESOLUTION TO AWARD BID #17-56 AND AUTHORIZE A CONTRACT WITH 81 CONSTRUCTION GROUP, INC. IN THE AMOUNT OF \$435,650.00 FOR THE CONSTRUCTION OF THE LAKE SEQUOYAH BASIN 3 ACCESS ROAD, AND TO APPROVE A PROJECT CONTINGENCY IN THE AMOUNT OF \$43,565.00

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby awards Bid #17-56 and authorizes Mayor Jordan to sign a contract with 81 Construction Group, Inc. in the amount of \$435,650.00 for the construction of the Lake Sequoyah Basin 3 Access Road, and further approves a project contingency in the amount of \$43,565.00.

City of Fayetteville Staff Review Form

2017-0652

Legistar File ID

12/5/2017

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Tim Nyander

11/8/2017

Utilities Director /
Utilities Department

Submitted By

Submitted Date

Division / Department

Action Recommendation:

Staff recommends approval of a construction contract with 81 Construction Group, Inc. for the construction of the Lake Sequoyah Basin 3 Access Road in the amount of \$435,650.00, and approval of a contract contingency in the amount of \$43,565.00 for a total of \$479,215.00.

Budget Impact:

5400.720.5600-5808.00

Water & Sewer

Account Number

Fund

17004.1

Lake Sequoyah Sediment Removal/Dredging

Project Number

Project Title

Budgeted Item? Yes

Current Budget \$ 503,242.00

Funds Obligated \$ 20,405.70

Current Balance \$ 482,836.30

Does item have a cost? Yes

Item Cost \$ 479,215.00

Budget Adjustment Attached? No

Budget Adjustment \$ -

Remaining Budget \$ 3,621.30

V20140710

Previous Ordinance or Resolution #

Original Contract Number:

Approval Date:

Comments:



MEETING OF DECEMBER 5, 2017

TO: Mayor and City Council

THRU: Don Marr, Chief of Staff
Water & Sewer Committee

FROM: Tim Nyander, Utilities Director

DATE: November 7, 2017

SUBJECT: Bid 17-56 Construction, Lake Sequoyah Basin 3 Access Road

RECOMMENDATION:

Staff recommends approval of a construction contract with 81 Construction Group Inc. for the construction of the Lake Sequoyah Basin 3 Access Road in the amount of \$435,650.00, and approval of a contract contingency in the amount of \$43,565.00 for a total of \$479,215.00.

BACKGROUND:

Bid 17-56 Construction, Lake Sequoyah Basin 3 Access Road will provide the access road connecting State Highway 16E near Van Hoose Lane across two previously installed access bridges on City Property to the site of the proposed year 2018 dredging berms and geopools. Pages 1 and 4 from the plan set are attached as an overall schematic and map.

DISCUSSION:

Public Bids were opened on October 26, 2017. Seven bids were received. The low bid of \$435,650.00 was submitted by 81 Construction Group, Inc. A copy of the Agreement signed by 81 Construction Group, Inc. is attached.

Bidder	Bid
81 Construction Group, Inc.	\$435,650.00
Arco excavation & Paving	\$783,950.00
Diamond Construction	\$549,893.70
Goodwin & Goodwin	\$562,890.00
Kraus Construction	\$720,330.00
RCR Construction	\$526,395.00
Sweetser Construction	\$579,260.00

The Engineer's estimate is \$478,508.83.

BUDGET/STAFF IMPACT:

Funds are available in the Lake Sequoyah Sediment Removal/Dredging project.

Attachments:

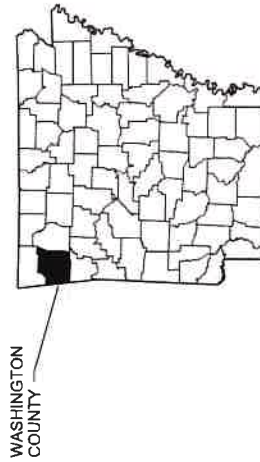
Pan sheets 1 and 4 (schematic/map)

Bid proposal and Agreement – 81 Construction Group, Inc.

LAKE SEQUOYAH BASIN 3 ACCESS ROAD BID 17-56, CONSTRUCTION



FAYETTEVILLE, ARKANSAS
SEPTEMBER 2017



WASHINGTON
COUNTY

ARKANSAS
NTS



FAYETTEVILLE

VICINITY MAP
NTS



PROJECT
LOCATION

LOCATION MAP
NTS

INDEX TO DRAWINGS

SHEET NO.	DRAWING NO.	TITLE
GENERAL		
1	G-001	TITLE, LOCATION MAPS AND INDEX TO DRAWINGS
2	G-002	ABBREVIATIONS
3	G-003	CIVIL LEGEND AND DESIGNATION LEGENDS
CIVIL		
4	C-201	PHASE II - SITE DEVELOPMENT AND EROSION CONTROL PLAN
5	C-202	ACCESS ROAD PLAN AND PROFILE STA 16+00 TO STA 16+40
6	C-203	ACCESS ROAD PLAN AND PROFILE STA 16+40 TO STA 22+40
7	C-204	ACCESS ROAD PLAN AND PROFILE STA 22+40 TO STA 28+40
8	C-205	TYPICAL SECTIONS
9	C-206	ACCESS ROAD CROSS SECTIONS
10	C-207	ACCESS ROAD CROSS SECTIONS
11	C-208	ACCESS ROAD CROSS SECTIONS
12	C-209	ACCESS ROAD CROSS SECTIONS
13	C-210	ACCESS ROAD HIGHWAY SIGNAGE
14	C-501	GUANO RAIL DETAILS

DETERMINED AND APPROVED STATE HIGHWAY COMMISSION

PCIA-1 METAL PIPE CULVERT FILL HEIGHTS & BEDDING
WF-4 WIRE FENCE TYPE C AND D

ch2m GENERAL TITLE, LOCATION MAPS AND INDEX TO DRAWINGS BID 17-56 CONSTRUCTION CITY OF FAYETTEVILLE LAKE SEQUOYAH BASIN 3 ACCESS ROAD FAYETTEVILLE, ARKANSAS		ISSUED FOR BID DATE: SEPTEMBER 2017 DRAWN BY: [blank] CHECKED BY: [blank] DATE: [blank] PLOT DATE: 9/26/2017 FILENAME: A0001-C-001_050001.dgn PLOT TIME: 6:58:13 AM
NO. DATE 1 10/1/17 2 10/1/17 3 10/1/17 4 10/1/17 5 10/1/17 6 10/1/17 7 10/1/17 8 10/1/17 9 10/1/17 10 10/1/17 11 10/1/17 12 10/1/17 13 10/1/17 14 10/1/17	REVISION 1 2 3 4 5 6 7 8 9 10 11 12 13 14	BY DATE APPROVED DATE



GENERAL NOTES

1. THE BASIN TOE OF SLOPE PROTECT MUST BE 10 FOOT MINIMUM FROM ALL WETLANDS. ALL BASINS MAY BE ADJUSTED IN THE FIELD BUT WILL NOT IMPACT WETLANDS.
2. ALL EROSION CONTROL MEASURES MUST BE IN PLACE BEFORE ANY DRAINAGE ACTIVITIES.

WETLAND LEGEND

	EMERGENT WETLAND	FORESTED WETLAND
1980	67,000	1,000
1981	67,000	1,000
1982	67,000	1,000
1983	67,000	1,000
1984	67,000	1,000
1985	67,000	1,000
1986	67,000	1,000
1987	67,000	1,000
1988	67,000	1,000
1989	67,000	1,000
1990	67,000	1,000
1991	67,000	1,000
1992	67,000	1,000
1993	67,000	1,000
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2011	67,000	1,000
2012	67,000	1,000
2013	67,000	1,000
2014	67,000	1,000
2015	67,000	1,000
2016	67,000	1,000
2017	67,000	1,000
2018	67,000	1,000
2019	67,000	1,000
2020	67,000	1,000

Land Area Controlled	
Total Site Area (sqm)	Percentage of Total Area Controlled
5.89	23%

Table 2
THE CONSPIRACY

[illegible]

WETLAND LEGEND

[illegible]

Land Area Controlled	
Total Site Area (sqm)	Percentage of Total Area Controlled
5.89	23%

1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26



EROSION CONTROL NOTES

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Q. Title	1
Q. Date	1
Q. Time	1
Q. Page	1
Q. Total	1

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100

DOCUMENT 00140 – BIDDER'S QUALIFICATION STATEMENT:

Contract Name: Lake Sequoyah Basin 3 Access Road
Bid 17- 56, Construction

Date: OCTOBER 26, 2017

SUBMITTED TO:

The City of Fayetteville, Arkansas
113 West Mountain Street
Fayetteville, Arkansas 72701

SUBMITTED BY:

Company 81 CONSTRUCTION GROUP INC

Name JEREMY VLESSON

Address PO BOX 844 SILOAM SPRINGS AR 72761

Principal Office 105 E ALPINE SILOAM SPRINGS AR 72761
UNIT 25

Corporation, LLC, partnership, individual, joint

venture, other CORPORATION

Arkansas State General Contractor's License Number

0336420518

For a Contractor to be considered as Qualified, the Contractor must satisfy all insurance, financial, and bonding requirements of the City of Fayetteville, and must have had at least five (5) years active experience under the current Contractor name in the installation of the product bid, including general earthwork. In accordance with Arkansas Procurement Law, a Contractor may use the combined experience of its owners or senior executive staff to satisfy the experience requirement, or the combined amount of experience of the key personnel that will be responsible for satisfying the experience requirement.

EXPERIENCE STATEMENT

- I. Bidder has been engaged as a General Contractor in construction for 18 years and has performed work of the nature and magnitude of this Contract for 40 years.
Bidder has been in business under its present name for 6 MTS

DOCUMENT 00140 – BIDDER'S QUALIFICATION STATEMENT: (CONTINUED)

2. Bidder now has the following bonded projects under contract: (On a separate sheet, list project name, owner, name of owner contact, engineer / architect, name of engineer/architect contact, amount of contract, surety, and estimated completion date.)
3. Bidder has completed the following (list minimum of 3) contracts consisting of work similar to that proposed by this Contract: (On a separate sheet, list project name, owner, name of owner contact, engineer / architect, name of engineer/architect contact, amount of contract, surety, and date of completion and percentage of the cost of the Work performed with Bidder's own forces.)
4. Has Bidder ever failed to complete any project? If so, state when, where, and why.
5. Bidder normally performs the following work with his own forces:

DIRT WORK / CONCRETE / BASE / EROSION CONTROL / WATER / STORM
DRAINAGE /

6. Construction experience of key individuals in the organization is as follows
(continued on attached sheets if needed):

LARRY KICHLINE VICE PRESIDENT 48 YEARS

JEREMY WESSON PRESIDENT 22 YEARS

7. In the event the Contract is awarded to Bidder, the required surety Bonds will be furnished by the following surety company and name and address of agent:

WALKER BROTHER INSURANCE INC

SURETY: GRANITE RE INC

DOCUMENT 00140 – BIDDER'S QUALIFICATION STATEMENT: (CONTINUED)

8. Bidder's Workmen's Compensation Experience Modifier Factor is:

1.00

FINANCIAL STATEMENT

Bidder possesses adequate financial resources as indicated by the following:

1. Assets and Liabilities: Attach a financial statement, audited if available, including Bidder's latest balance sheet and income statements showing the following items:
 - a. Current assets (cash, joint venture accounts, accounts receivable, notes receivable, accrued income, deposits, materials inventory, and prepaid expenses).
 - b. Net fixed assets.
 - c. Other assets.
 - d. Current liabilities (accounts payable, notes payable, accrued expenses, provision for income taxes, advances, accrued salaries, and accrued payroll taxes).
 - e. Other liabilities (capital, capital stock, authorized and outstanding shares par values, earned surplus, and retained earnings).
 - f. Name of firm preparing financial statement and date thereof:

If financial statement is not for identical organization named herein, explain relationship and financial responsibility of the organization furnished.

2. ~~Current Judgments: The following judgements are outstanding against Bidder:~~

	<u>Judgment Creditors</u>	<u>Where Docketed and Date</u>	<u>Amount</u>
a.	_____	_____	\$ _____
b.	_____	_____	\$ _____

DOCUMENT 00140 – BIDDER'S QUALIFICATION STATEMENT: (CONTINUED)

Bidder hereby represents and warrants that all statements set forth herein are true and correct.

Date: OCTOBER 26, 2017

(OFFICIAL SEAL)

Name of Organization:

81 CONSTRUCTION GROUP INC

By JEREMY WESSON X [Signature]

Title PRESIDENT

(If Bidder is a partnership, the partnership name shall be signed, followed by the signature of at least one of the partners. If Bidder is a corporation or LLC, the corporate name shall be signed, followed by the signature of a duly-authorized officer and with the corporate seal affixed.)

END OF DOCUMENT 00140

DOCUMENT 0400-BID FORM

Contract Name: Lake Sequoyah Basin 3 Access Road

Bid Number: 17 - 56, Constrution

BID TO:

Owner: The City of Fayetteville, Arkansas
113 West Mountain Street
Fayetteville, Arkansas 72701

BID FROM:

Bidder: BI CONSTRUCTION GROUP INC
PO BOX 844
SILVER SPRING ARKANSAS 72761

ARTICLE 1- INTENT

- 1.01 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an agreement with Owner in the form included in the Contract Documents to perform and furnish all Work as specified or indicated in the Contract Documents for the Bid price and within the Bid time indicated in this Bid and in accordance with the other terms and conditions of the Contract Documents.

ARTICLE 2- TERMS AND CONDITIONS

- 2.01 Bidder accepts all of the terms and conditions of the Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 90 days after the day of Bid opening. Bidder will sign and deliver the required number of counterparts of the Agreement with the Bonds and other documents required by the Bidding Requirements within 15 days after the date of Owner's Notice of Award.

ARTICLE 3- BIDDER'S REPRESENTATIONS

A. Bidder has examined and carefully studied the Bid Documents, and the following Addenda, receipt of all which is hereby acknowledged:

Number	Date
APPENDIX ¹	10-19-17
APPENDIX #2	10-23-17

- B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, performance, and furnishing of the Work.
- C. Bidder is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, performance, and furnishing of the Work.
- D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site; and (2) reports and drawings of a Hazardous Environmental Condition, if any, at the Site. Bidder acknowledges that such reports and drawings are not Contract Documents and may not be complete for Bidder's purposes. Bidder acknowledges that Owner and Engineer do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Bid Documents with respect to Underground Facilities at or contiguous to the Site.
- E. Bidder has obtained and carefully studied (or assumes responsibility for

DOCUMENT 0400-BID FORM (continued)

having done so) all such additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site or otherwise which may affect cost, progress, performance, or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder and safety precautions and programs incident thereto.

- F. Bidder does not consider that any additional examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performing and furnishing of the Work in accordance with the times, price, and other terms and conditions of the Contract Documents.
- G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to Work for which this Bid is submitted as indicated in the Contract Documents.
- H. Bidder has correlated the information known to Bidder, information and observations obtained from visits to the Site, reports, and drawings identified in the Contract Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents.
- I. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Bidder.
- J. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work for which this Bid is submitted.
- K. This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm, or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization, or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham bid; Bidder has not solicited or

DOCUMENT 0400-BID FORM (continued)

induced any person, firm, or a corporation to refrain from bidding; and Bidder has not sought by collusion to obtain for himself any advantage over any other Bidder or over Owner.

- L. Bidder will perform the Work in compliance with all applicable trench safety standards set forth in Occupational Safety and Health Administration (OSHA) Part 1926 – Subpart P – Excavations.

ARTICLE 4- BID PRICE

Bidders are required to provide pricing for all line items, including deductive alternate items. Failure to provide deductive alternate pricing can result in bid rejection.

The City intends to award this contract to the lowest qualified responsive responsible bidder based on the total base bid as long as the base bid amount falls within the amount of funds certified for the project plus 25%.

In the event no bid falls within the amount of funds certified for the project plus 25%, the City will utilize the deductive alternates in order to further evaluate bids until a bid received falls within the amount certified, plus 25%.

In the event all deductive alternates are subtracted from the total base bid and no bid falls within the amount certified, plus 25%, all bids shall be rejected and become confidential.

In no case shall the amount bid for the item of “mobilization” exceed 5% of the total contract amount for all items listed in the proposal or bid. Should the amount entered into the proposal or bid for this item exceed 5%, the bid shall be rejected.

Bidder shall complete the Work in accordance with the Contract Documents for the following price(s):

DOCUMENT 0400-BID FORM (continued)

BID SCHEDULE					
ITEM NO.	DESCRIPTION	UNIT	EST. QTY	UNIT PRICE	TOTAL
1	Mobilization, Pre-construction Submittals (Shall not exceed 5% of Total Bid)	LS	1	\$20,837.00	\$20,837.00
2	Performance/Payment Bonds and Taxes	LS	1	\$12,700.00	\$12,700.00
3	Site Preparation	LS	1	\$6,072.00	\$6,072.00
4	Surveying	LS	1	\$9,600.00	\$9,600.00
5	Bridge Completion	LS	1	\$33,281.00	\$33,281.00
6	Demobilization	LS	1	\$2,500.00	\$2,500.00
7	Traffic Control & Maintenance	LS	1	\$2,500.00	\$2,500.00
8	General Excavation	CY	2000	\$6.00	\$12,000.00
9	General Fill	CY	6100	\$11.79	\$71,919.00
10	AHTD B-Stone (Stone Backfill)	CY	700	\$38.00	\$26,600.00
11	AHTD Class 7 (Aggregate Base Course)	CY	4000	\$37.97	\$151,880.00
12	Tensar Grid	SY	5400	\$1.85	\$9,990.00
13	Geotextile	SY	3900	\$5.78	\$22,542.00
14	3-inch Stone (Construction Entrance)	CY	44	\$73.00	\$3,212.00
15	12-inch CMP casing	LF	140	\$30.00	\$4,200.00
16	18-inch CMP casing	LF	70	\$35.50	\$2,485.00
17	Place Topsoil	CY	800	\$15.18	\$12,144.00
18	Landscape Fabric	SY	4800	\$2.49	\$11,952.00
19	Project Identification Signs	EA	2	\$1,500.00	\$3,000.00
20	Road Signs (Traffic Control)	EA	2	\$400.00	\$800.00
21	Gates (including supports)	EA	2	\$575.00	\$1,150.00
22	Erosion Control Straw Wattle	LF	6000	\$1.73	\$10,380.00
23	Seeding & Mulching	SY	4800	\$0.52	\$2,496.00
24	Tree Protection Fencing	FT	4700	\$0.30	\$1,410.00

TOTAL AMOUNT BID

\$435,650.00

The City intends to award to the lowest responsive responsible bidder based on the evaluation of the sum of the Bid Schedule.

ARTICLE 5- CONTRACT TIMES

- 5.01 Bidder agrees that the Work will be substantially completed and completed and ready for final payment within the number of calendar days indicated in the Agreement.
- 5.02 Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work within the times specified in the Agreement.

ARTICLE 6- BID CONTENT

- 6.01 The following documents are attached to and made a condition of this Bid:

- A. Required Bid security in the form of a cashier's check from a financial institution located in the

State of Arkansas or a Bid Bond and in the amount of

Twenty one thousand seven hundred eighty two dollars and fifty cents Dollars (\$ 21,782.50)

- B. A tabulation of Subcontractors and other persons and organizations required to be identified in this Bid.

ARTICLE 7- COMMUNICATIONS

- 7.01 Communications concerning this Bid shall be addressed to the Bidder as follows:

Rome Wesson (479) 935-0381

Larry Kichline (479) 841-0025

Email 81construction@gmail.com

Phone No. (479) 524-6691

Fax No. (479) 524-6692

DOCUMENT 0400-BID FORM (continued)

ARTICLE 8- TERMINOLOGY

- 8.01 The terms used in this Bid which are defined in the GENERAL CONDITIONS or Instructions to Bidders will have the meanings assigned to them.

ARTICLE 9- CONTRACTOR'S ASSURANCES AND EXECUTION/SIGNATURE

- 9.01 Contractor's Assurances.

As the authorized representative of the individual, incorporation, or corporation (hereinafter referred to as the company) bidding on or participating in the project, I certify that I have read and understand the requirements of the General and/or Supplemental Conditions and that the principles, agents and employees of the company will comply with these requirements including all relevant statutes and regulations issued pursuant thereto. I further certify as the authorized agent of the company that:

EQUAL OPPORTUNITY I will comply with all requirements of 41 CFR Chapter 60 and Executive Orders 11246 and 11375, including inclusion of all required equal opportunity clauses in each sub-contract awarded in excess of \$10,000 and I will furnish a similar statement from each proposed subcontractor, when appropriate. I will also comply with all Equal Employment Opportunity requirements as defined by Section 504 of the Rehabilitation Act of 1973; the Age Discrimination Act of 1975; and Section 13 of the Federal Water Pollution Control Act Amendments of 1972 regarding sex discrimination.

NONSEGREGATED FACILITIES The company that I represent does not and will not maintain any facilities provided for its employees in a segregated manner, or permit its employees to perform their services at any location under company control where segregated facilities are maintained; and that the company will obtain a similar certification prior to the award of any subcontract exceeding \$10,000 which is not exempt from the equal opportunity clause.

LABOR STANDARDS I will comply with the Labor Standards Provisions contained in the Contract Documents and furnish weekly payrolls and certifications as may be required by the City of Fayetteville to affirm compliance. I will also require that weekly payrolls be submitted to the City of Fayetteville for all subcontracts in excess of \$2,000.

OSHA REQUIREMENTS I will comply with the Department of Labor Safety and Health Regulations promulgated under Section 107 of the Contract Work Hours and Safety Standard Act (40 U.S.C. 327-333) in the performance of the contract.

PROCUREMENT PROHIBITIONS As required by Executive Order 11738, Section 306 of the Clean Air Act and Section 508 of the Clean Water Act, I certify that I will not procure goods and services from persons who have been convicted of violations of either law if the goods or services are to be produced by the facility that gave rise to the violation.

DEBARMENT AND SUSPENSION I certify that to the best of my knowledge and belief that the company that I represent and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

(b) Have not within a three year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (b) of this certification; and

(d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State, or local) terminated for cause or default.

I understand that a false statement on this certification regarding debarment and suspension may be grounds for rejection of this proposal or termination of the award. In addition, under 18 USC Sec. 1001, a false statement may result in a fine. I further certify that I will obtain a similar certification for each subcontract awarded in excess of \$25,000.

9.02 Execution/Signatures for Contractor Assurances above, Bid and Bid Form:

SUBMITTED on OCTOBER 26, 2017

Arkansas State Contractor License No. 0336420518

DUNS/Tax ID#/Cage Code _____

If Bidder is:

An Individual

Name (type or printed): _____

By: _____ (SEAL)
(Individual's Signature)

Doing business as: _____

Business address: _____

Phone No: _____ Fax No: _____

Email Address: _____

A Partnership

Partnership Name : _____ (SEAL)

By: _____
(Signature of general partner-attach evidence of authority to sign)

Name (type or printed): _____

Business address: _____

Phone No: _____ Fax No: _____

Email Address: _____

DOCUMENT 0400-BID FORM (continued)

A Corporation or Limited Liability Company (LLC)

Corporation Name : 81 CONSTRUCTION GROUP INC (SEAL)

State of Incorporation: ARKANSAS

Type (General Business, Professional, Service, Limited Liability): _____

GENERAL CONTRACTOR

By: JDW
(Signature-attach evidence of authority to sign)

Name (type or printed): JEREMY WESSON

Title: PRESIDENT

(CORPORATE SEAL)

Attest: [Signature]
(Signature of Corporate Secretary)

81 CONSTRUCTION GROUP INC

Business address: 105 E. ALPINE UNIT #23

SILOAM SPRINGS ARKANSAS 72761

Phone No: 479 524-6691 Fax No. 479 524-6692

Email Address: 81CONSTRUCTION@GMAIL.COM

END OF DOCUMENT 00400

DOCUMENT 00430 – LIST OF SUBCONTRACTORS

In compliance with the Instructions to Bidders and other Contract Documents, the undersigned submits the following names of Subcontractors to be used in performing the Work for:

Lake Sequoyah Basin 3 Access Road

Bid 17-56, Construction

Bidder certifies that all Subcontractors listed are eligible to perform the Work.

<u>Subcontractor's Work</u>	<u>Subcontractor's Name and Address</u>	<u>Expected Percentage or Value</u>
Clearing/Demolition	<u>81 CONSTRUCTION GROUP INC</u>	<u> </u>
Stormwater Pollution	<u>81 CONSTRUCTION GROUP INC</u>	<u> </u>
Prevention Plan/Erosion	<u>81 CONSTRUCTION GROUP INC</u>	<u> </u>
Control	<u>81 CONSTRUCTION GROUP INC</u>	<u> </u>
Material Testing	<u> </u>	<u> </u>
Other (designate)	<u>GUARD RAIL : SIGNS</u>	<u> </u>
	<u>CUSTOM PAVEMENT MAINTENANCE : SAFETY</u>	<u> </u>
<u>Other (designate)</u>	<u> </u>	<u> </u>

NOTE: This form must be submitted in accordance with the Instructions to Bidders.


Bidder's Signature

END OF DOCUMENT 00430

GRANITE RE, INC.

Bid Bond

KNOW ALL MEN BY THESE PRESENTS, that we 81 Construction Group, Inc.

as principal, hereinafter called the Principal, and

Granite Re, Inc., 14001 Quailbrook Drive, Oklahoma City, OK 73134

a corporation duly organized under the laws of the State of Oklahoma as Surety, hereinafter called the Surety, are held and firmly bound unto City of Fayetteville

as Obligee, hereinafter called the Obligee, in the sum of

Five Percent of the Bid Amount, Dollars (\$ 5% of Bid Amount)

for the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid for

Project: Lake Sequoyah Access Road

Bid Date: 10/26/2017

The conditions of this Bond are such that if the Obligee accepts the bid of the Principal within the time specified in the bid documents or within such time period as may be agreed to by the Obligee and Principal, and the Principal either (1) enters into a contract with the Obligee in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Obligee, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Obligee the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Obligee may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Obligee and Principal to extend the time in which the Obligee may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids, and the Obligee and Principal shall obtain the Surety's consent for an extension beyond sixty (60) days.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this 5th day of October, 2017.



Witness

81 Construction Group, Inc.

PRESIDENT 77 DW

Title (Seal)

Granite Re, Inc.

Billy Eugene Bennett Jr.

Attorney in Fact, Billy Eugene Bennett, Jr. (Seal)

GRANITE RE, INC.
GENERAL POWER OF ATTORNEY

Know all Men by these Presents:

That GRANITE RE, INC., a corporation organized and existing under the laws of the State of OKLAHOMA and having its principal office at the City of OKLAHOMA CITY in the State of OKLAHOMA does hereby constitute and appoint:

PAT A. GIRARD; BILLY EUGENE BENNETT JR.; ADRIAN W. LUTTRELL; DANNY LEE SCHNEIDER; MICHAEL ADRIAN LUTTRELL; JACQUE L. LINDSEY its true and lawful Attorney-in-Fact(s) for the following purposes, to wit:

To sign its name as surety to, and to execute, seal and acknowledge any and all bonds, and to respectively do and perform any and all acts and things set forth in the resolution of the Board of Directors of the said GRANITE RE, INC. a certified copy of which is hereto annexed and made a part of this Power of Attorney; and the said GRANITE RE, INC. through us, its Board of Directors, hereby ratifies and confirms all and whatsoever the said:

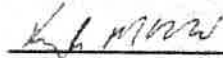
PAT A. GIRARD; BILLY EUGENE BENNETT JR.; ADRIAN W. LUTTRELL; DANNY LEE SCHNEIDER; MICHAEL ADRIAN LUTTRELL; JACQUE L. LINDSEY may lawfully do in the premises by virtue of these presents.

In Witness Whereof, the said GRANITE RE, INC. has caused this instrument to be sealed with its corporate seal, duly attested by the signatures of its President and Secretary/Treasurer, this 3rd day of July, 2013.

STATE OF OKLAHOMA)
) SS:
COUNTY OF OKLAHOMA)




Kenneth D. Whittington, President


Kyle P. McDonald, Treasurer

On this 3rd day of July, 2013, before me personally came Kenneth D. Whittington, President of the GRANITE RE, INC. Company and Kyle P. McDonald, Secretary/Treasurer of said Company, with both of whom I am personally acquainted, who being by me severally duly sworn, said, that they, the said Kenneth D. Whittington and Kyle P. McDonald were respectively the President and the Secretary/Treasurer of GRANITE RE, INC., the corporation described in and which executed the foregoing Power of Attorney; that they each knew the seal of said corporation; that the seal affixed to said Power of Attorney was such corporate seal, that it was so fixed by order of the Board of Directors of said corporation, and that they signed their name thereto by like order as President and Secretary/Treasurer, respectively, of the Company.

My Commission Expires:
August 8, 2017
Commission #: 01013257




Notary Public

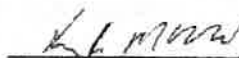
GRANITE RE, INC.
Certificate

THE UNDERSIGNED, being the duly elected and acting Secretary/Treasurer of Granite Re, Inc., an Oklahoma Corporation, HEREBY CERTIFIES that the following resolution is a true and correct excerpt from the July 15, 1987, minutes of the meeting of the Board of Directors of Granite Re, Inc. and that said Power of Attorney has not been revoked and is now in full force and effect.

"RESOLVED, that the President, any Vice President, the Secretary, and any Assistant Vice President shall each have authority to appoint individuals as attorneys-in-fact or under other appropriate titles with authority to execute on behalf of the company fidelity and surety bonds and other documents of similar character issued by the Company in the course of its business. On any instrument making or evidencing such appointment, the signatures may be affixed by facsimile. On any instrument conferring such authority or on any bond or undertaking of the Company, the seal, or a facsimile thereof, may be impressed or affixed or in any other manner reproduced; provided, however, that the seal shall not be necessary to the validity of any such instrument or undertaking."

IN WITNESS WHEREOF, the undersigned has subscribed this Certificate and affixed the corporate seal of the Corporation this
5th day of October, 20 17.




Kyle P. McDonald, Secretary/Treasurer

DOCUMENT 00500 – AGREEMENT

BETWEEN OWNER AND CONTRACTOR

Contract Name/Title: Lake Sequoyah Basin 3 Access Road

Contract No.: 17 – 56, Construction

THIS AGREEMENT is dated as of the _____ day of _____ in the year 2017 by and between The City of Fayetteville, Arkansas and _____ (hereinafter called Contractor).

ARTICLE 1 - WORK

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The work under this Contract includes, but is not limited to:

Construction of an access road, from Arkansas Hwy 16, to Basin 3 near Lake Sequoyah and as shown in the Drawing.

Any use of a third party dumpster or roll off container shall be procured from the City of Fayetteville Recycling and Trash Collection Division. Use of a Non-City dumpster or roll off container is not allowed.

Contractor is responsible for obtaining all applicable permits; however, fees for the City issued permits shall be waived.

The Contract includes work in City of Fayetteville Right-of-way and in General Utility Easements.

Refer to Section 00400-Bid Form for quantities:

ARTICLE 2 - ENGINEER

2.01 The Contract Documents have been prepared by the City of Fayetteville Engineering Division. City of Fayetteville Engineering Division assumes all duties and responsibilities, and has the rights and authority assigned to City of Fayetteville Engineering Division in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

A. The Engineer for all design aspects of the project will be CH2M Hill.

DOCUMENT 00500 – AGREEMENT (continued)

- B. The Engineer for all construction aspects of the project will be an Arkansas licensed PE employed by, and designated by, the City of Fayetteville.

ARTICLE 3 - CONTRACT TIME

3.01 TIME OF THE ESSENCE:

- A. All time limits for milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

3.02 DATES FOR SUBSTANTIAL COMPLETION AND FINAL PAYMENT:

- A. The Work shall be Substantially Completed within 120 calendar days after the date when the Contract Times commence to run as provided in the GENERAL CONDITIONS. Final completion shall be within 30 calendar days after the substantial completion date.

3.03 LIQUIDATED DAMAGES:

- A. Owner and Contractor recognize that time is of the essence of this Agreement and that The City of Fayetteville will suffer financial loss if the Work is not completed within the time specified above, plus any extensions thereof allowed in accordance with the GENERAL CONDITIONS. The parties also recognize the delays, expense, and difficulties involved in proving the actual loss suffered by The City of Fayetteville if the Work is not Substantially Completed on time. Accordingly, instead of requiring any such proof, The City of Fayetteville and Contractor agree that as liquidated damages for delay (but not as a penalty) Contractor shall pay The City of Fayetteville Two Hundred Dollars (\$200.00) for each calendar day that expires after the time specified above in Paragraph 3.02 for Substantial Completion until the Work is Substantially Complete. After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the time specified in Paragraph 3.02 for completion and readiness for final payment or any proper extension thereof granted by

DOCUMENT 00500 – AGREEMENT (continued)

The City of Fayetteville, Contractor shall pay The City of Fayetteville Five Hundred Dollars (\$500.00) for each calendar day that expires after the time specified for completion and readiness for final payment.

ARTICLE 4 - CONTRACT PRICE

- 4.01 The CITY OF FAYETTEVILLE agrees to pay, and the CONTRACTOR agrees to accept, as full and final compensation for all work done under this agreement, the amount based on the unit prices bid in the Proposal (BID FORM) which is hereto attached, for the actual amount accomplished under each pay item, said payments to be made in lawful money of the United States at the time and in the manner set forth in the Specifications.
- 4.02 As provided in the General Conditions estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by ENGINEER as provided in the General Conditions. Unit prices have been computed as provided in the General Conditions.
- 4.03 Changes, modifications, or amendments in scope, price or fees to this contract shall not be allowed without a prior formal contract amendment approved by the Mayor and the City Council in advance of the change in scope, cost or fees.
1. There shall be no changes without prior written approval of the Engineer of Record and/or the City's designated Professional Engineer.

ARTICLE 5 - PAYMENT PROCEDURES

- 5.01 SUBMITTAL AND PROCESSING OF PAYMENTS:
- A. Contractor shall submit Applications for Payment in accordance with the GENERAL CONDITIONS. Applications for Payment will be processed by Engineer as provided in the GENERAL CONDITIONS.

DOCUMENT 00500 – AGREEMENT (continued)

5.02 **PROGRESS PAYMENTS, RETAINAGE:**

- A. The City of Fayetteville shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment as recommended by Engineer, on or about the 15th day of each month during construction. All such payments will be measured by the schedule of values established in the GENERAL CONDITIONS (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements.
 - 1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below, but, in each case, less the aggregate of payments previously made and less such amounts as Engineer shall determine, or The City of Fayetteville may withhold, in accordance with the GENERAL CONDITIONS.
 - a. 95% of Work Completed (with the balance being retainage). If Work has been 50% completed as determined by Engineer, and if the character and progress of the Work have been satisfactory to The City of Fayetteville and Engineer, The City of Fayetteville on recommendation of Engineer, may determine that as long as the character and progress of the Work subsequently remain satisfactory to them, there will be no additional retainage on account of Work subsequently completed, in which case the remaining progress payments prior to Substantial Completion will be an amount equal to 100% of the Work Completed less the aggregate of payments previously made; and
 - b. 100% of Equipment and Materials not incorporated in the Work but delivered, suitably stored, and accompanied by documentation satisfactory to The City of Fayetteville as provided in the GENERAL CONDITIONS.

DOCUMENT 00500 – AGREEMENT (continued)

5.03 FINAL PAYMENT:

- A. Upon final completion and acceptance of the Work in accordance with the GENERAL CONDITIONS, The City of Fayetteville shall pay the remainder of the Contract Price as recommended by Engineer and as provided in the GENERAL CONDITIONS.

ARTICLE 6 - CONTRACTOR'S REPRESENTATIONS

6.01 In order to induce The City of Fayetteville to enter into this Agreement, Contractor makes the following representations:

- A. Contractor has examined and carefully studied the Contract Documents including the Addenda and other related data identified in the Bid Documents.
- B. Contractor has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, performance, and furnishing of the Work.
- C. Contractor is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, performance, and furnishing of the Work.
- D. Contractor has carefully studied all:
 - (1) Reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site; and
 - (2) Reports and drawings of a Hazardous Environmental Condition, if any, at the Site. Contractor acknowledges that The City of Fayetteville and Engineer do not assume responsibility for the accuracy or completeness of information and data shown or indicated

DOCUMENT 00500 – AGREEMENT (continued)

in the Contract Documents with respect to Underground Facilities at or contiguous to the Site.

- E. Contractor has obtained and carefully studied (or assumes responsibility of having done so) all such additional supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site or otherwise which may affect cost, progress, performance, and furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto.
- F. Contractor does not consider that any additional examinations, investigations, explorations, tests, studies, or data are necessary for the performing and furnishing of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.
- G. Contractor is aware of the general nature of work to be performed by The City of Fayetteville and others at the Site that relates to the Work as indicated in the Contract Documents.
- H. Contractor has correlated the information known to Contractor, information and observations obtained from visits to the Site, reports and drawings identified in the Contract Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents.
- I. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents and the written resolution thereof by Engineer is acceptable to Contractor.

DOCUMENT 00500 – AGREEMENT (continued)

- J. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

ARTICLE 7 - CONTRACT DOCUMENTS

7.01 CONTENTS:

- A. The Contract Documents which comprise the entire Agreement between The City of Fayetteville and Contractor concerning the Work consist of the following and may only be amended, modified, or supplemented as provided in the GENERAL CONDITIONS:
1. This Agreement.
 2. Exhibits to this Agreement (enumerated as follows):
 - a. Notice to Proceed.
 - b. Contractor's Bid.
 - c. Documentation submitted by Contractor prior to Notice of Award.
 3. Performance, Payment, and other Bonds.
 4. General Conditions.
 5. Supplementary Conditions.
 6. Specifications consisting of divisions and sections as listed in table of contents of Project Manual.
 7. Drawings consisting of a cover sheet and sheets as listed in the table of contents thereof, with each sheet bearing the following general title: Lake Sequoyah Basin 3 Access Road.
 8. The following which may be delivered or issued after the Effective Date of the Agreement and are not attached hereto: All Written Amendments and other documents amending, modifying, or supplementing the Contract Documents pursuant to the GENERAL CONDITIONS.

DOCUMENT 00500 – AGREEMENT (continued)

ARTICLE 8 – MISCELLANEOUS

8.01 TERMS:

- A. Terms used in this Agreement which are defined in the GENERAL CONDITIONS shall have the meanings stated in the GENERAL CONDITIONS.

8.02 ASSIGNMENT OF CONTRACT:

- A. No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by Law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

8.03 SUCCESSORS AND ASSIGNS:

- A. The City of Fayetteville and Contractor each binds himself, his partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

8.04 SEVERABILITY:

- A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon The City of Fayetteville and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

DOCUMENT 00500 – AGREEMENT (continued)

8.05 FREEDOM OF INFORMATION ACT:

- A. City contracts and documents prepared while performing city contractual work are subject to the Arkansas Freedom of Information Act. If a Freedom of Information Act request is presented to the City of Fayetteville, the contractor will do everything possible to provide the documents in a prompt and timely manner as prescribed in the Arkansas Freedom of Information Act (A.C.A. §25-19-101 et. seq.). Only legally authorized photocopying costs pursuant to the FOIA may be assessed for this compliance.

8.06 LIENS:

- A. **No liens against this construction project are allowed.** Arkansas law (A.C.A. §§18-44-501 through 508) prohibits the filing of any mechanics' of materialmen's liens in relation to this public construction project. Arkansas law requires and the contractor promises to provide and file with the Circuit Clerk of Washington County a bond in a sum equal to the amount of this contract. Any subcontractor or materials supplier may bring an action for non-payment or labor or material on the bond. The contractor promises to notify every subcontractor and materials supplier for this project of this paragraph and obtain their written acknowledgement of such notice prior to commencement of the work of the subcontractor or materials supplier.

DOCUMENT 00500 – AGREEMENT (continued)

IN WITNESS WHEREOF, The City of Fayetteville and Contractor have signed this Agreement in quadruplicate. One counterpart each has been delivered to Contractor and Engineer. Two counterparts each has been delivered to The City of Fayetteville. All portions of the Contract Documents have been signed, initialed, or identified by The City of Fayetteville and Contractor or identified by Engineer on their behalf.

This Agreement will be effective on _____, 20__, which is the Effective Date of the Agreement.

CONTRACTOR: 81 CONSTRUCTION GROUP INC CITY OF FAYETTEVILLE _____

By: 77DW _____

By: Lioneld Jordan _____

Title: PRESIDENT _____

Title: Mayor _____

(SEAL)

(SEAL)

Attest

LARRY KIDWINE

Attest _____

DOCUMENT 00500 - AGREEMENT (continued)

Address for giving notices

PO Box 844

Sioux Springs AR 72761

License No. 036642518

Agent for Service of process

LARRY K SCHLINE

Address for giving notices

113 W. Mountain St.

Fayetteville, AR 72701

(attach evidence of authority to
sign and resolution or other documents
authorizing execution of Agreement)

(If Contractor is a corporation,
or LLC, attach evidence of authority to
sign.)

Approved As to Form:

By: _____

Attorney For: _____

END OF DOCUMENT 00500



Articles of Incorporation

Filing Information

Filing Act: 958 of 1987
Entity Name: 81 CONSTRUCTION GROUP INC.
File Date: 2017-05-11 12:51:20
Effective Date: 2017-05-11
Filing Signature: JEREMY WESSON
Signature Title: Incorporator/Organizer
Stock Nonstock: Stock

Primary Purpose:

The purpose for which this corporation is organized:

1. The primary purpose of the Corporation shall be: **Construction**
2. To conduct any business enterprise not contrary to law.
3. To exercise all the powers enumerated in Section 4-27-302 of the Arkansas Business Corporation Act.

Total Number of Shares: 100
Par Value: 0.0010

Stock Breakdown

No. of Shares	Class	Series	Par Value Per Share
100	Common	Unknown	0.0000

Registered Agent:

First Name: JEREMY
Last Name: WESSON
Address 1: 121 S GILES AVENUE
City: GENTRY
State: AR
Zip: 72734
Country: USA
Phone: 479-841-0025
Email: 81CONSTRUCTION@GMAIL.COM

Officers

First Name: JEREMY
Last Name: WESSON
Title: Incorporator/Organizer
Address 1: 121 S. AVENUE
City: GENTRY
State: AR
Zip: 72734
Country: USA

First Name: JEREMY
Last Name: WESSON
Title: Member
Address 1: 121 S. AVENUE
City: GENTRY
State: AR
Zip: 72734
Country: USA

First Name: LARRY
Last Name: KICHLINE
Title: Member
Address 1: 13084 HWY. 45 S
City: LINCOLN
State: AR

STATE OF ARKANSAS



Mark Martin

ARKANSAS SECRETARY OF STATE

To All to Whom These Presents Shall Come, Greetings:

I, Mark Martin, Arkansas Secretary of State of Arkansas, do hereby certify that the following and hereto attached instrument of writing is a true and perfect copy of

Articles of Incorporation

of

81 CONSTRUCTION GROUP INC.

filed in this office

May 11, 2017

In Testimony Whereof, I have hereunto set my hand and affixed my official Seal. Done at my office in the City of Little Rock, this 11th day of May 2017.

Mark Martin

Mark Martin
Secretary of State

Online Certificate Authorization Code: 1145675914bae9ea054
To verify the Authorization Code, visit sos.arkansas.gov





ARKANSAS SECRETARY OF STATE

Mark Martin

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Corporation Name 81 CONSTRUCTION GROUP INC.

Fictitious Names

Filing # 811133203

Filing Type For Profit Corporation

Filed under Act Dom Bus Corp; 958 of 1987

Status Good Standing

Principal Address

Reg. Agent JEREMY WESSON

Agent Address 121 S.GILES AVENUE

GENTRY, AR 72734

Date Filed 05/11/2017

Officers JEREMY WESSON , Incorporator/Organizer
JEREMY WESSON , Member
LARRY KICHLINE , Member

Foreign Name N/A

Foreign Address

State of Origin N/A

**Purchase a Certificate of Good
Standing for this Entity**

Pay Franchise Tax for this corporation



City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2017-0653

Agenda Date: 12/5/2017

Version: 1

Status: Agenda Ready

In Control: City Council Meeting

File Type: Resolution

Agenda Number: A. 11

MCCLELLAND CONSULTING ENGINEERS, INC.:

A RESOLUTION TO APPROVE A CONTRACT WITH MCCLELLAND CONSULTING ENGINEERS, INC. IN THE AMOUNT OF \$15,200.00 FOR TESTING AND SURVEYING SERVICES ASSOCIATED WITH THE CONSTRUCTION OF THE LAKE SEQUOYAH BASIN 3 ACCESS ROAD PROJECT, AND TO APPROVE A BUDGET ADJUSTMENT

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby authorizes Mayor Jordan to sign a contract with McClelland Consulting Engineers, Inc. in the amount of \$15,200.00 for testing and surveying services associated with the construction of the Lake Sequoyah Basin 3 Access Road project.

Section 2: That the City Council of the City of Fayetteville, Arkansas hereby approves a budget adjustment, a copy of which is attached to this Resolution.

City of Fayetteville Staff Review Form

2017-0653

Legistar File ID

12/5/2017

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Tim Nyander

11/8/2017

Utilities Director /
Utilities Department

Submitted By

Submitted Date

Division / Department

Action Recommendation:

Staff recommends approval of a testing and surveying services contract with McClelland Consulting Engineers (MCE) in the amount of \$15,200.00 for specified Owner furnished materials testing and surveys required for the construction of Bid 17-56 Construction, Lake Sequoyah Basin 3 Access Road, and approval of a budget adjustment.

Budget Impact:

5400.720.5600-5314.00

Water & Sewer

Account Number

Fund

17004.1

Lake Sequoyah Sediment Removal/Dredging

Project Number

Project Title

Budgeted Item? Yes

Current Budget \$ 503,242.00

Funds Obligated \$ 499,620.70

Current Balance \$ 3,621.30

Does item have a cost? Yes

Item Cost \$ 15,200.00

Budget Adjustment Attached? Yes

Budget Adjustment \$ 11,579.00

Remaining Budget \$ 0.30

V20140710

Previous Ordinance or Resolution #

Original Contract Number:

Approval Date:

Comments:



MEETING OF DECEMBER 5, 2017

TO: Mayor and City Council

THRU: Don Marr, Chief of Staff
Water & Sewer Committee

FROM: Tim Nyander, Utilities Director

DATE: November 7, 2017

SUBJECT: Testing and surveying services contract with McClelland Consulting Engineers (MCE) in the amount of \$15,200.00 and approval of a budget adjustment

RECOMMENDATION:

Staff recommends approval of a testing and surveying services contract with McClelland Consulting Engineers (MCE) in the amount of \$15,200.00 for specified Owner furnished materials testing and surveys required for the construction of Bid 17-56 Construction, Lake Sequoyah Basin 3 Access Road, and approval of a budget adjustment.

BACKGROUND:

The Lake Sequoyah Basin 3 Access Road will provide the access road connecting State Highway 16E near Van Hoose Lane across two previously installed access bridges on City Property to the site of the proposed year 2018 dredging berms and geopools.

DISCUSSION:

This request is for the specified Owner furnished materials testing and surveys required for the construction of the Lake Sequoyah dredging project. The construction contract for Bid 17-56 Construction, Lake Sequoyah Basin 3 Access Road, is a separate Agenda request also scheduled for the December 5, 2017 City Council meeting.

BUDGET/STAFF IMPACT:

Funds will be moved from Wastewater Treatment, Water Quality Improvements to the Lake Sequoyah Sediment Removal/Dredging project.

Attachments:
Agreement

October 23, 2017

City of Fayetteville
Engineering Division
125 W. Mountain Street
Fayetteville, Arkansas 72701

ATTN: Mr. Jim Beavers, P.E.
City of Fayetteville Utilities Engineer

RE: Proposal for Services During Construction
Construction Materials Testing and Construction Layout/Survey
Lake Sequoyah Basin 3 Access Road
Fayetteville, Arkansas

Dear Mr. Beavers,

We are pleased to present our proposal combined services during construction to include construction materials and construction layout/survey relevant to the planned Lake Sequoyah Basin 3 Access Road project in Fayetteville, Arkansas. Description of construction materials testing services are provided on pages 1 and 2 of this document, while construction layout/survey services are detailed on pages 3 and 4.

The following information is presented for your consideration and is aimed at assisting in the formation of your project budget with regards to construction materials testing.

- **Proof-Roll/Subgrade Observation:** Subtotal = \$1,500.00
- **Soil and Base Density Testing:** Subtotal = \$4,800.00
- **Estimated Engineering Consulting Hours:** Subtotal = \$1,500.00

Based on the assumptions detailed in the forgoing proposal, we can provide construction materials testing on this project for a Not-to-Exceed Without Approval fee of **\$7,800.00**.

The information on the following pages provides further detail regarding the anticipated testing scope on the project which includes number of trips for each service, time spent onsite for each service, and other assumptions which were integral in arriving at the estimated fee amount.

Based on the provided current construction plans and our general understanding of the project, the project scope is to consist of new construction of a gravel access road with an approximate length of 1,500 linear feet. The road subgrade section is understood to consist of B-Stone, select fill, and Class 7 base course material.

Based on our understanding of the project and the provided information, testing is anticipated to consist of proof-roll observations/subgrade recommendations and soil and base density testing.

To better your understanding of our associated fees, we presented an estimated per-trip price for the services we anticipate providing on this project. The provided per-trip prices assume the following factors:

- ❖ A geotechnical engineer or engineering technician spending one (1) hour onsite for proof-roll observation and subgrade recommendations for the relevant road length
- ❖ A certified technician spending one (1) hour onsite for each soil and/or base density testing trip.
 - Three (3) density tests being conducted each trip
- ❖ A Geotechnical Engineer / Laboratory Supervisor spending ten (10) hours reviewing plans and submittals and providing consulting services during the project

We have also assumed that the project duration will be approximately three (3) months for the access road construction. From the assumptions and project details referenced above, we estimated the following per-trip prices and subtotals for each service anticipated being required:

Proof-Roll Observation:

\$250.00 per trip

- ❖ Access Road – 6 trips

▪ **Subtotal: \$1,500.00**

Soil and Base Density Testing:

\$200.00 per trip

- ❖ Access Road Select Fill Material – 12 trips
- ❖ Access Road Base Course Material – 12 trips

▪ **Subtotal: \$4,800.00**

Estimated Engineering Consulting Hours:

- ❖ Geotechnical Engineer / CMT Supervisor – 15 hours

▪ **Subtotal: \$1,500.00**

Our estimated number of trips for each testing service is based on our review of the provided project documents and from experience on projects in the area with similar scope and size. Our fees are directly related to the amount of trips made for each service and time spent onsite. If the project scope varies after submittal of this document and prior to construction, please allow for the review/revision of this document.

As requested, we are also presenting herewith a proposed engineering services contract between McClelland Consulting Engineers, Inc., hereinafter referred to as the ENGINEER, and the City of Fayetteville, hereinafter referred to as the OWNER, which is associated with the provision of professional services as defined in Article 1, and for the consideration defined in Article 2 hereinafter.

The OWNER would like for the ENGINEER to conduct construction layout and survey services for the proposed Lake Sequoyah Basin 3 Access Road in Fayetteville, Arkansas.

The ENGINEER will complete the tasks as outlined in Article 1.

ARTICLE 1

Task 1 -Construction layout and surveying services.

ENGINEER will:

- Establish survey control for the project.
- Layout graded centerline points for the proposed road centerline.
- Conduct as built survey of constructed road.
- Conduct survey services for quantity verification.

ARTICLE 2

Task 1 – Construction layout and surveying services.

- Payment for the above referenced construction layout and surveying services on this project will a Not-to-Exceed Without Approval fee of **\$7,400.00**. Payments shall be made in monthly installments as construction project progresses.

ARTICLE 3

It is understood that time is of essence and that the ENGINEER shall endeavor to plan and provide his services in a timely manner.

ARTICLE 4

It is further mutually agreed by the parties hereto:

- That the OWNER shall make available to the ENGINEER all technical data in the OWNER's possession including maps and other information required by the ENGINEER and relating to his work.
- That, the ENGINEER shall maintain a level of competency presently maintained by other practicing professional surveyors in the same type of work for the professional and technical

soundness and accuracy of all drawings, and other work and materials furnished under this Agreement.

- All documents including drawings, specifications, estimates, field notes and other data pertaining to the work or to the project shall become the property of the OWNER.
- That the OWNER may, from time to time, request changes in the scope of the services of the ENGINEER to be performed hereunder. Such changes, including any increase or decrease in the amount of the ENGINEER'S compensation, which are mutually agreed upon by and between the OWNER and the ENGINEER, shall be incorporated in written amendments to this Agreement.
- Payment for professional services provided by the ENGINEER are due within 30 days of invoice receipt.
- All documents including drawings, specifications, estimates, field notes, and other data pertaining to the work or to the Project shall become the property of the OWNER. The OWNER shall not be restricted in the subsequent use of the design, design documents, or ideas incorporated in the work. However, the ENGINEER shall bear no responsibility for such reuse of the design unless specifically agreed to in writing.

We appreciate the opportunity to submit this proposal for construction materials testing relevant to the Lake Sequoyah Basin 3 Access Road Project in Fayetteville, Arkansas. Please contact us with any questions or concerns that you might have regarding the information contained in this proposal.

By signing below, an executed agreement will be enacted to engage construction materials testing and construction layout/survey services on the project for a total Not-to-Exceed Without Approval Amount of **\$15,200.00**.

IN WITNESS WHEREOF, CITY OF FAYETTEVILLE, ARKANSAS by and through its Mayor, and ENGINEER, by its authorized officer have made and executed this Agreement as of the day and year first above written.

CITY OF FAYETTEVILLE, ARKANSAS

ATTEST:

By: _____

Mayor, Lioneld Jordan

By: _____

City Clerk

McClelland Consulting Engineers, Inc.

By:  _____

Title: Geotechnical Engineer / Senior Associate

Budget Year	Division	Adjustment Number
2017	WATER SEWER (720)	
	/Org2	
	Requestor: Cheryl Partain	

A BA is needed within the Lake Sequoyah Sediment Removal/Dredging project for the construction materials testing and surveying services associated with the Bid 17-56 Construction, Lake Sequoyah Basin 3 Access Road. The construction project includes building a road to access the dredging site at Lake Sequoyah.

	COUNCIL DATE:	12/5/2017
	LEGISTAR FILE ID#:	2017-0653
	<i>Barbara Fell</i> 11/9/2017 11:48 AM	
	Budget Director	Date
	TYPE:	
	DESCRIPTION:	
	GLDATE:	
	POSTED:	/
	RESOLUTION/ORDINANCE	

[illegible]



City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2017-0655

Agenda Date: 12/5/2017

Version: 1

Status: Agenda Ready

In Control: City Council Meeting

File Type: Resolution

Agenda Number: A. 12

MCGOODWIN, WILLIAMS AND YATES, INC. AMENDMENT NO. 1:

A RESOLUTION TO APPROVE AMENDMENT NO. 1 TO THE CONTRACT WITH MCGOODWIN, WILLIAMS AND YATES, INC. IN AN AMOUNT NOT TO EXCEED \$74,016.00 FOR CHANGES TO THE DINSMORE TRAIL WATER MAIN PLANS, CONSTRUCTION OBSERVATION AND MANAGEMENT SERVICES, AND ASSISTANCE WITH PRESSURE SUSTAINING VALVES ON THE WATER MAINS

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby approves Amendment No. 1 to the contract with McGoodwin, Williams and Yates, Inc. in the amount of \$74,016.00 for changes to the Dinsmore Trail water main plans, construction observation and management services, and assistance with pressure sustaining valves on the water mains.

City of Fayetteville Staff Review Form

2017-0655

Legistar File ID

12/5/2017

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Tim Nyander

11/9/2017

Utilities Director /
Utilities Department

Submitted By

Submitted Date

Division / Department

Action Recommendation:

Staff recommends a resolution approving Amendment No. 1 to the engineering contract with McGoodwin, Williams and Yates, Inc. in the amount of \$74,016.00 for changes to the Dinsmore Trail water main plans, construction observation and management, and assistance with pressure sustaining valves on the water mains.

Budget Impact:

5400.720.5600-5314.00

Water & Sewer

Account Number

Fund

12009.1601

Water System Rehabilitation/Replacement

Project Number

Project Title

Budgeted Item? Yes

Current Budget \$ 6,540,630.00

Funds Obligated \$ 2,274,674.22

Current Balance \$ 4,265,955.78

Does item have a cost? Yes

Item Cost \$ 74,016.00

Budget Adjustment Attached? No

Budget Adjustment \$ -

Remaining Budget \$ 4,191,939.78

V20140710

Previous Ordinance or Resolution # 116-16

Original Contract Number:

Approval Date:

Comments:



MEETING OF DECEMBER 5, 2017

TO: Mayor and City Council

THRU: Don Marr, Chief of Staff
Water & Sewer Committee

FROM: Tim Nyander, Utilities Director

DATE: November 8, 2017

SUBJECT: **Approval of an Engineering Contract Amendment No. 1 with McGoodwin, Williams and Yates, Inc. in the amount of \$74,016.00**

RECOMMENDATION:

Staff recommends a resolution approving Amendment No. 1 to the engineering contract with McGoodwin, Williams and Yates, Inc. in the amount of \$74,016.00 for changes to the Dinsmore Trail water main plans, construction observation and management, and assistance with pressure sustaining valves on the water mains.

BACKGROUND:

The original contract with McGoodwin, Williams and Yates, Inc. dated June 7, 2016 as approved by Resolution 116-16 includes the Dinsmore Trail water main replacement and the Water Master Plan Update.

DISCUSSION:

The requested amendment adds changes to the Dinsmore trail water main plans as required for the City during subsequent to easement negotiations, adds the Construction observation and management of the near future construction and adds additional assistance to the City concerning pressure sustaining valves on the water transmission mains. The proposed amendment is based upon actual hours and a not-to-exceed price.

BUDGET/STAFF IMPACT:

Funds are available in the Water System Rehabilitation/Replacement project.

Attachments:

Amendment No. 1
Resolution 116-16

AMENDMENT NO. 1
To
AGREEMENT FOR PROFESSIONAL ENGINEERING SERVICES
Between
CITY OF FAYETTEVILLE, ARKANSAS
And
McGOODWIN, WILLIAMS, AND YATES, INC.

WATER MASTER PLAN UPDATE AND DINSMORE TRAIL WATER MAIN REPLACEMENT

WHEREAS, on June 7, 2016, the City of Fayetteville, Arkansas (CITY OF FAYETTEVILLE) and McGoodwin, Williams and Yates, Inc. of Fayetteville, Arkansas (ENGINEER) entered into an Agreement for engineering services in connection with the Water Master Plan Update and Dinsmore Trail Water Main Replacement (the “Project”); and

WHEREAS, for the Dinsmore Trail Water Main Replacement, the CITY OF FAYETTEVILLE has asked the ENGINEER to perform design revisions required pursuant to negotiations with landowners after the original design was completed; and

WHEREAS, for the Dinsmore Trail Water Main Replacement, the original Agreement included a scope of work for Construction Phase Services but provided for fees to be established later, and the CITY OF FAYETTEVILLE and ENGINEER are ready to establish a not-to-exceed amount at this time; and

WHEREAS, for the Water Master Plan Update, the ENGINEER has completed the original scope of work, and the CITY OF FAYETTEVILLE is requesting additional coordination services regarding the automated valves beyond the original scope; and

WHEREAS, the original Agreement must now be amended to set forth the additional scope of work and compensation to the Engineer for the additional scope;

NOW THEREFORE, in consideration of the mutual covenants and Agreements herein contained, CITY OF FAYETTEVILLE and MWY, the parties hereto, stipulate and agree that the Agreement for Engineering Services dated June 7, 2016, is hereby amended in the following particulars:

SECTION 5 – PAYMENTS TO ENGINEER

Delete Paragraph 5.1 and replace with the following:

- 5.1 The maximum not-to-exceed amounts authorized for each phase of work are described in Appendix A. The CITY OF FAYETTEVILLE shall compensate ENGINEER based on a Unit Price or Lump Sum basis as described in Appendix A.

APPENDIX A – SCOPE OF SERVICES

A.2 Specific Scope of Services

In Section A2.4 “Water Master Plan Update (Project FY0363), add the following Item 13:

13. Assist the city staff with preliminary coordination for future improvements necessary to place into service the existing automated pressure sustaining valves, including coordination with the manufacturer’s representatives, coordination with the Arkansas Department of Health and Beaver Water District, meetings with the CITY

OF FAYETTEVILLE, and preparation of a Memorandum summarizing the results of the meetings.

A.3 Project Deliverables

In Section A3.1 "Deliverables Dinsmore Trail Water Main Replacement (MWY Project No. FY0362)," add the following Item 4:

4. Two (2) copies of the Plans of Record

In Section A3.2 "Deliverables Water Master Plan Update (Project FY0363)," add the following Item 4:

4. Two (2) copies of a Memorandum described in section A2.4 Paragraph 13.

A.4 Compensation

In Section A4.1 "Dinsmore Trail Water Main Replacement (MWY Project No. FY0362)," replace Paragraphs 1 and 2 with the following:

1. The maximum not-to-exceed amount for services described in Section A2.1 Detailed Design and Preparation of Construction Plans and Specifications and Section A2.2 Bidding and Preconstruction Services is \$53,144.00. *Clarification: This amount is \$19,755.00 above the original agreement amount.*
2. The maximum not-to-exceed amount for services described in Section A2.3 Construction Phase Services is \$49,241.00.

In Section A4.2 "Water Master Plan Update (MWY Project FY0363)," replace Paragraph 1 with the following:

1. The maximum not-to-exceed amount for services described in Section A2.4 Water Master Plan Update is \$153,708.00. *Clarification: This amount is \$5,020.00 above the original agreement amount.*

All other provisions of the original Agreement remain in full force and effect.

IN WITNESS WHEREOF, CITY OF FAYETTEVILLE, ARKANSAS by and through its Mayor, and ENGINEER, by its authorized officer have caused this Amendment to be duly executed this _____ day of _____, 2017.

CITY OF FAYETTEVILLE, ARKANSAS

McGOODWIN, WILLIAMS, AND YATES

By : _____
Mayor, Lioneld Jordan

By: 
Brad B. Hammond, P.E.

ATTEST:
By: _____
City Clerk

Title: President

END OF AMENDMENT NO. 1 TO
AGREEMENT FOR PROFESSIONAL ENGINEERING SERVICES



113 West Mountain
Street Fayetteville,
AR 72701
(479) 575-8323

Resolution: 116-16

File Number: 2016-0223

MCGOODWIN, WILLIAMS AND YATES, INC.:

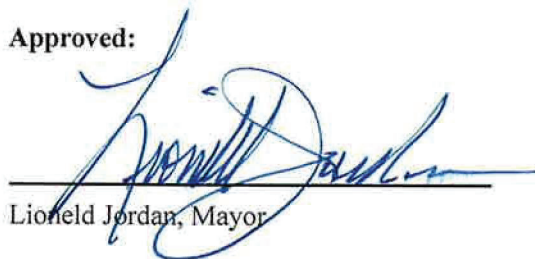
A RESOLUTION TO APPROVE A PROFESSIONAL ENGINEERING SERVICES AGREEMENT WITH MCGOODWIN, WILLIAMS AND YATES, INC. IN AN AMOUNT NOT TO EXCEED \$182,077.00 FOR A WATER MASTER PLAN UPDATE AND FOR DESIGN, BIDDING AND CONSTRUCTION PHASE SERVICES FOR THE REPLACEMENT OF APPROXIMATELY 3,000 FEET OF WATER LINE ON DINSMORE TRAIL.

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby approves a professional engineering services agreement, a copy of which is attached to this Resolution, with McGoodwin, Williams and Yates, Inc., pursuant to RFQ # 16-01, in an amount not to exceed \$182,077.00 for a Water Master Plan update and for design, bidding and construction phase services for the replacement of approximately 3,000 feet of water line on Dinsmore Trail.

PASSED and APPROVED on 6/7/2016

Approved:


Lionel Jordan, Mayor

Attest:


Sondra E. Smith, City Clerk
Treasurer





City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2017-0650

Agenda Date: 12/5/2017

Version: 1

Status: First Reading

In Control: City Council Meeting

File Type: Ordinance

Agenda Number: B. 1

REZONE COLLEGE AVENUE:

AN ORDINANCE TO REZONE ALL PARCELS WITHIN OR NEAR COLLEGE AVENUE AS SHOWN ON EXHIBIT C OF THE PLANNING DEPARTMENT'S AGENDA MEMO COMPRISING ABOUT 24.62 ACRES

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1. That the City Council of the City of Fayetteville, Arkansas hereby rezones all parcels within the area boundaries shown on Exhibit C of the Planning Department's Agenda Memo comprising about 24.62 acres from their current zoning districts to the zoning districts shown on Exhibit C.

Section 2. That the City Council of the City of Fayetteville, Arkansas hereby amends the official zoning map of the City of Fayetteville, Arkansas to reflect the zoning changes provided in Section 1.

City of Fayetteville Staff Review Form

2017-0650

Legistar File ID

11/21/2017

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Andrew Garner

11/3/2017

City Planning /
Development Services Department

Submitted By

Submitted Date

Division / Department

Action Recommendation:

Submitted by City Staff and Planning Commission to rezone property on or near College Avenue between Maple Street and North Street.

Budget Impact:

Account Number

Fund

Project Number

Project Title

Budgeted Item? NA

Current Budget \$ -

Funds Obligated \$ -

Current Balance \$ -

Does item have a cost? No

Item Cost

Budget Adjustment Attached? NA

Budget Adjustment

Remaining Budget \$ -

V20140710

Previous Ordinance or Resolution #

Original Contract Number:

Approval Date:

Comments:



CITY COUNCIL AGENDA MEMO

MEETING OF NOVEMBER 21, 2017

TO: Mayor and City Council

THRU: Garner Stoll, Development Services Director

FROM: Andrew Garner, Planning Director

DATE: November 3, 2017

SUBJECT: ADM 17-5939: Administrative Item (Various UDC Chapter Amendments): Submitted by City Staff and Planning Commission for revisions to UDC Chapters 151, 161, and 166. The proposed code changes would modify all zoning districts to change building height from feet to stories, and create a design overlay district along the College Avenue rezoning area between Maple and North Streets.

RZN 17-5713: Rezone (College Ave. from North Street to Maple Street, 445-446): Submitted by City Staff and Planning Commission to rezone properties along College Avenue from North Street to Maple Street.

RECOMMENDATION:

The City Planning staff and Planning Commission recommend approval of three ordinances to amend the Unified Development Code as depicted in the attached *Exhibits 'A' and 'B'*, and rezone the subject property as shown in the attached *Exhibit 'C'*.

Staff and Planning Commission have different recommendations for the details of the proposed College Avenue design overlay district as described below.

BACKGROUND:

In spring of 2017, the Planning Commission considered a rezoning proposed by staff along the College Avenue corridor between Maple Street and North Street. The Planning Commission forwarded the request to the City Council. After discussion at the City Council Ordinance Review Committee during June-July, 2017, the request was forwarded back to the Planning Commission for additional consideration. The Commission set up a committee to study changes to the Unified Development Code that were not initially a part of the rezoning, but were proposed as the discussion evolved. The Planning Commission committee met four times during August-September, 2017. A copy of the meeting minutes from the City Council and Planning Commission Ordinance Review Committees are attached.

STAFF REQUEST:

Staff requests that the City Council rezone the College Avenue corridor, and amend the Fayetteville Unified Development Code (UDC). The UDC amendments would: (1) change building height from feet to stories; and (2) create a design overlay district for most of the College Avenue rezoning area. The overlay district excludes five single family parcels that are being brought into compliance with a residential zoning with this project.

The overlay district would require additional architectural design standards to encourage high quality, pedestrian-friendly buildings, and mitigate neighborhood concerns that tall, single use multi-family buildings could be built along the corridor. This proposal comprises three ordinances and separate Legistar items. The specific code changes are listed below and shown in the attached strikeout-highlight version.

UDC Amendments

Exhibit 'A' (Legistar Item 2017-0646)

- UDC Chapter 151: Definitions
 - Delete current definition of story
 - Add a new definition of story to follow current International Building Code definition
 - Delete definition of building height based on number of feet
- UDC Chapter 161: Zoning Regulations
 - Change building height in all zoning districts from feet to stories
 - Change building height step-backs in all districts to refer to stories instead of feet

Exhibit 'B' (Legistar Item 2017-0648)

- UDC Chapter 166: Development
 - Clarify the applicability of the Downtown Design Overlay District (DDOD) Architecture Standards
 - Create an Overlay District for the College Avenue area following the boundaries as shown on *Exhibit 'C'*, with the following:
 - Comply with DDOD Architecture Standards
 - Minimum ground floor story height of 12 feet
 - Residential use can occupy no more than three stories in a building

College Avenue Rezoning (Exhibit 'C' – Legistar Item 2017-0650)

Along with the UDC Amendments described above, the College Avenue rezoning area is recommended to be rezoned utilizing Alternative 1 proposed with RZN 17-5713 (*Exhibit C*). This would allow council to consider both the code changes and the rezoning at the same time.

DISCUSSION AND PUBLIC COMMENT:

Committee and Planning Commission

This item was discussed at the October 19, 2017 Planning Commission Committee meeting. The five members present reached a consensus in favor of the proposal as written. However, Commissioner Hoffman was not present and at the October 23, 2017 Planning Commission

meeting he expressed concerns with restricting residential use to three stories. Commissioner Hoffman made a motion to forward the item to City Council without that restriction. The motion was approved on an 8-0 vote.

Staff continues to recommend the restriction on residential uses to ensure appropriate contextual relationship between new buildings and the existing neighborhoods. This approach mitigates neighborhood concerns that tall, single use multi-family buildings, not compatible with adjacent structures, could be built along the corridor.

Public Comment

To ensure that the public has ample opportunity to comment on the current proposal, staff completed re-notification of the affected and adjacent property owners before the city council meeting. At the time of publication of this report public comment on the current proposal had not been received.

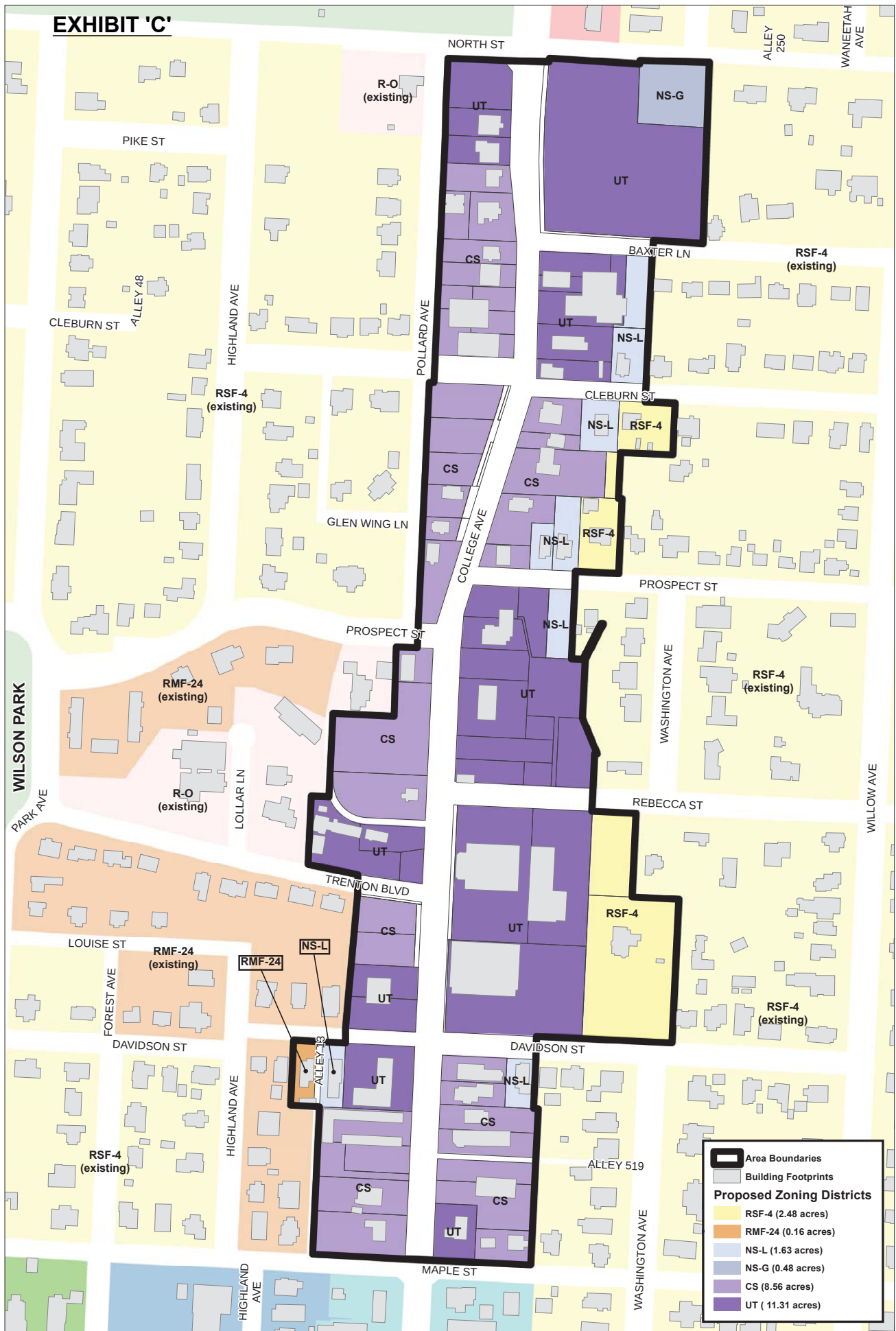
BUDGET/STAFF IMPACT:

N/A

Attachments:

- Exhibit A: code amendments for new height restrictions and definition of 'story'
- Exhibit B:
 - o Code amendments for creation of College Avenue Overlay District
 - o College Avenue Overlay District Boundary
- Exhibit C: rezoning map
- Draft meeting minutes: October 23, 2017 Planning Commission
- Planning Commission Staff Report (October 23, 2017)

EXHIBIT 'C'



0 100 200 400 600 800 Feet

Alternative 1
North College Avenue Rezone
Proposed Zoning Districts





City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2017-0648

Agenda Date: 12/5/2017

Version: 1

Status: First Reading

In Control: City Council Meeting

File Type: Ordinance

Agenda Number: B. 2

AMEND §166.21 DOWNTOWN DESIGN OVERLAY DISTRICT:

AN ORDINANCE TO AMEND §166.21 **DOWNTOWN DESIGN OVERLAY DISTRICT** BY AMENDING THE APPLICABILITY SECTION TO INCLUDE COLLEGE AVENUE OVERLAY DISTRICT AND TO ENACT §166.26 **COLLEGE AVENUE OVERLAY DISTRICT**

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1. That the City Council of the City of Fayetteville, Arkansas hereby amends §166.21(B) Applicability by adding “and College Avenue Overlay District.” to the end of the first section.

Section 2. That the City Council of the City of Fayetteville, Arkansas hereby enacts §166.26 **College Avenue Overlay District** as shown below:

- “(A) *Purpose.* The intent of this ordinance is to encourage good architectural form through the use of quality design and materials. The goal of the code is to promote functional architecture that creates attractive and usable space while minimizing potential negative impacts of tall, single use multi-family buildings.
- (B) *Applicability.* The College Avenue Overlay District applies to parcels of land located within the boundaries of the College Avenue Overlay District.
- (C) General Requirements.
- (1) Buildings shall be constructed in accordance with the Downtown Design Overlay District Architecture Standards.
 - (2) The ground floor of any building shall have a minimum story height of 12 feet.
 - (3) Residential use can occupy no more than three stories in a building.”

City of Fayetteville Staff Review Form

2017-0648

Legistar File ID

11/21/2017

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Andrew Garner

11/3/2017

City Planning /
Development Services Department

Submitted By

Submitted Date

Division / Department

Action Recommendation:

Submitted by City Staff and Planning Commission for revisions to UDC 166. The proposed code changes amend the applicability section of the Downtown Design Overlay District and enact a new College Avenue Overlay District.

Budget Impact:

Account Number		Fund	
Project Number		Project Title	
Budgeted Item?	NA	Current Budget	\$ -
		Funds Obligated	\$ -
		Current Balance	\$ -
Does item have a cost?	No	Item Cost	
Budget Adjustment Attached?	NA	Budget Adjustment	
		Remaining Budget	\$ -

V20140710

Previous Ordinance or Resolution # _____

Original Contract Number: _____

Approval Date: _____

Comments:



CITY COUNCIL AGENDA MEMO

MEETING OF NOVEMBER 21, 2017

TO: Mayor and City Council

THRU: Garner Stoll, Development Services Director

FROM: Andrew Garner, Planning Director

DATE: November 3, 2017

SUBJECT: ADM 17-5939: Administrative Item (Various UDC Chapter Amendments): Submitted by City Staff and Planning Commission for revisions to UDC Chapters 151, 161, and 166. The proposed code changes would modify all zoning districts to change building height from feet to stories, and create a design overlay district along the College Avenue rezoning area between Maple and North Streets.

RZN 17-5713: Rezone (College Ave. from North Street to Maple Street, 445-446): Submitted by City Staff and Planning Commission to rezone properties along College Avenue from North Street to Maple Street.

RECOMMENDATION:

The City Planning staff and Planning Commission recommend approval of three ordinances to amend the Unified Development Code as depicted in the attached *Exhibits 'A' and 'B'*, and rezone the subject property as shown in the attached *Exhibit 'C'*.

Staff and Planning Commission have different recommendations for the details of the proposed College Avenue design overlay district as described below.

BACKGROUND:

In spring of 2017, the Planning Commission considered a rezoning proposed by staff along the College Avenue corridor between Maple Street and North Street. The Planning Commission forwarded the request to the City Council. After discussion at the City Council Ordinance Review Committee during June-July, 2017, the request was forwarded back to the Planning Commission for additional consideration. The Commission set up a committee to study changes to the Unified Development Code that were not initially a part of the rezoning, but were proposed as the discussion evolved. The Planning Commission committee met four times during August-September, 2017. A copy of the meeting minutes from the City Council and Planning Commission Ordinance Review Committees are attached.

STAFF REQUEST:

Staff requests that the City Council rezone the College Avenue corridor, and amend the Fayetteville Unified Development Code (UDC). The UDC amendments would: (1) change building height from feet to stories; and (2) create a design overlay district for most of the College Avenue rezoning area. The overlay district excludes five single family parcels that are being brought into compliance with a residential zoning with this project.

The overlay district would require additional architectural design standards to encourage high quality, pedestrian-friendly buildings, and mitigate neighborhood concerns that tall, single use multi-family buildings could be built along the corridor. This proposal comprises three ordinances and separate Legistar items. The specific code changes are listed below and shown in the attached strikeout-highlight version.

UDC Amendments

Exhibit 'A' (Legistar Item 2017-0646)

- UDC Chapter 151: Definitions
 - Delete current definition of story
 - Add a new definition of story to follow current International Building Code definition
 - Delete definition of building height based on number of feet
- UDC Chapter 161: Zoning Regulations
 - Change building height in all zoning districts from feet to stories
 - Change building height step-backs in all districts to refer to stories instead of feet

Exhibit 'B' (Legistar Item 2017-0648)

- UDC Chapter 166: Development
 - Clarify the applicability of the Downtown Design Overlay District (DDOD) Architecture Standards
 - Create an Overlay District for the College Avenue area following the boundaries as shown on *Exhibit 'C'*, with the following:
 - Comply with DDOD Architecture Standards
 - Minimum ground floor story height of 12 feet
 - Residential use can occupy no more than three stories in a building

College Avenue Rezoning (Exhibit 'C' – Legistar Item 2017-0650)

Along with the UDC Amendments described above, the College Avenue rezoning area is recommended to be rezoned utilizing Alternative 1 proposed with RZN 17-5713 (*Exhibit C*). This would allow council to consider both the code changes and the rezoning at the same time.

DISCUSSION AND PUBLIC COMMENT:

Committee and Planning Commission

This item was discussed at the October 19, 2017 Planning Commission Committee meeting. The five members present reached a consensus in favor of the proposal as written. However, Commissioner Hoffman was not present and at the October 23, 2017 Planning Commission

meeting he expressed concerns with restricting residential use to three stories. Commissioner Hoffman made a motion to forward the item to City Council without that restriction. The motion was approved on an 8-0 vote.

Staff continues to recommend the restriction on residential uses to ensure appropriate contextual relationship between new buildings and the existing neighborhoods. This approach mitigates neighborhood concerns that tall, single use multi-family buildings, not compatible with adjacent structures, could be built along the corridor.

Public Comment

To ensure that the public has ample opportunity to comment on the current proposal, staff completed re-notification of the affected and adjacent property owners before the city council meeting. At the time of publication of this report public comment on the current proposal had not been received.

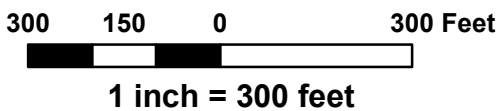
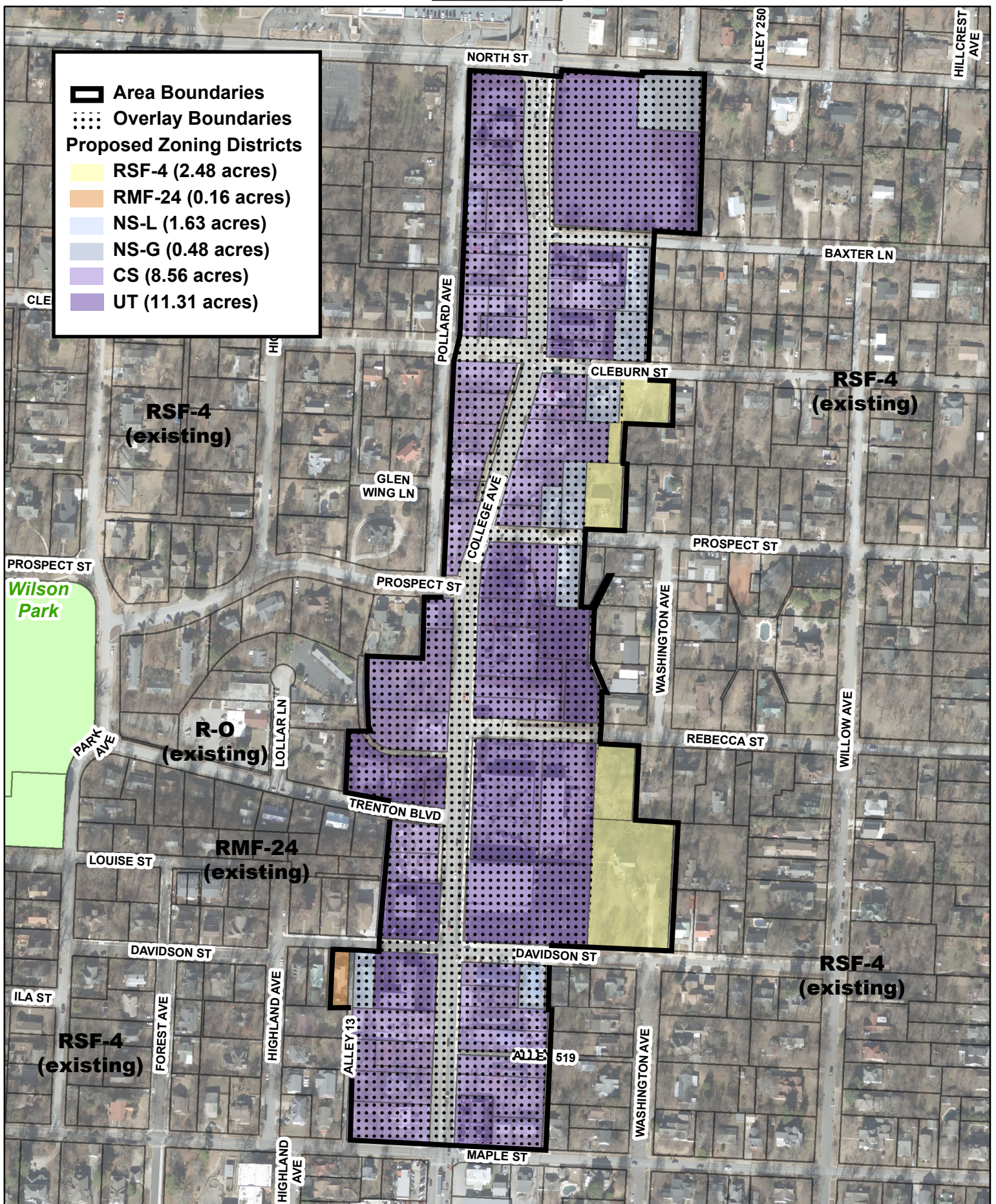
BUDGET/STAFF IMPACT:

N/A

Attachments:

- Exhibit A: code amendments for new height restrictions and definition of 'story'
- Exhibit B:
 - o Code amendments for creation of College Avenue Overlay District
 - o College Avenue Overlay District Boundary
- Exhibit C: rezoning map
- Draft meeting minutes: October 23, 2017 Planning Commission
- Planning Commission Staff Report (October 23, 2017)

EXHIBIT 'B'



Proposed Zoning Districts and Overlay Boundaries



ADM 17-5939 Proposed Code Changes Shown in Strikeout and Highlight

166.21 - Downtown Design Overlay District

- (A) *Purpose.* The intent of this ordinance is to encourage good architectural form through the use of quality design and materials. The goal of the code is to promote functional architecture that creates attractive and usable space. Downtown Fayetteville has a rich architectural history spanning many decades and styles; therefore, architecture should be respectful of the existing built environment and should strive to enhance the public realm. A strong emphasis shall be placed upon designing and implementing sustainable and green architecture practices.
- (B) *Applicability .* The Downtown Design Overlay District applies to parcels of land located within the boundaries of the Downtown Design Overlay District and College Avenue Overlay District. The Downtown Design Overlay District Architecture Standards are applicable in the following instances:

166.26 – College Avenue Overlay District

- (A) *Purpose.* The intent of this ordinance is to encourage good architectural form through the use of quality design and materials. The goal of the code is to promote functional architecture that creates attractive and usable space while minimizing potential negative impacts of tall, single use multi-family buildings.
- (B) *Applicability.* The College Avenue Overlay District applies to parcels of land located within the boundaries of the College Avenue Overlay District.
- (C) *General Requirements.*
- (1) Buildings shall be constructed in accordance with the Downtown Design Overlay District Architecture Standards.
 - (2) The ground floor of any building shall have a minimum story height of 12 feet.
 - (3) Residential use can occupy no more than three stories in a building.



City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2017-0628

Agenda Date: 12/5/2017

Version: 1

Status: Agenda Ready

In Control: City Council Meeting

File Type: Resolution

Agenda Number: C. 1

WALTON FAMILY FOUNDATION DESIGN EXCELLENCE PROGRAM GRANT:

A RESOLUTION TO THANK THE WALTON FAMILY FOUNDATION, TO AUTHORIZE MAYOR JORDAN TO ACCEPT A DESIGN EXCELLENCE PROGRAM GRANT FROM THE WALTON FAMILY FOUNDATION IN THE AMOUNT OF \$1,770,000.00 TO FUND THE DESIGN OF AN INTERACTIVE OUTDOOR CULTURAL ARTS CORRIDOR ALONG THE RAZORBACK REGIONAL GREENWAY, TO AUTHORIZE THE ISSUANCE OF A REQUEST FOR QUALIFICATIONS WITH THE CONDITION THAT ONLY FIRMS PRE-APPROVED BY THE WALTON FAMILY FOUNDATION MAY RESPOND, AND TO APPROVE A BUDGET ADJUSTMENT

WHEREAS, the City of Fayetteville has been selected to receive a Walton Family Foundation Design Excellence Program grant to fund the design of the Fayetteville Arts Corridor; and

WHEREAS, the City is committed to funding and implementing the final approved designs by 2021, likely through a combination of a voter approved infrastructure improvement bonds, Capital Improvement Plan sidewalk funds, dedicated trail funds, and philanthropic donations; and

WHEREAS, a condition of the grant requires that the design be completed by one of the Architecture/Landscape Architecture firms that has been pre-approved by the Foundation as part of the Northwest Arkansas Design Excellence Program, which will necessitate adding this condition to the City's Request for Qualifications for this project.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby thanks the Walton Family Foundation, and authorizes Mayor Jordan to execute a Design Excellence Program Grant Agreement with the Walton Family Foundation in the amount of \$1,770,000.00 to fund the design of an interactive outdoor cultural arts corridor along the Razorback Regional Greenway in downtown Fayetteville.

Section 2: That the City Council of the City of Fayetteville, Arkansas hereby authorizes Mayor Jordan to issue a Request for Qualifications with the condition that only firms that have been pre-approved by the Walton Family Foundation may respond.

Section 3: That the City Council of the City of Fayetteville, Arkansas hereby approves a budget adjustment, a copy of which is attached to this Resolution.

City of Fayetteville Staff Review Form

2017-0628

Legistar File ID

12/5/2017

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Peter Nierengarten

11/17/2017

Sustainability & Resilience /
Chief of Staff

Submitted By

Submitted Date

Division / Department

Action Recommendation:

Staff recommends approving a resolution accepting the Walton Family Foundation Design Excellence Program grant in the amount of 1.77 million dollars to fund the design of the Fayetteville Cultural Arts Corridor and approval of a budget adjustment.

Budget Impact:

2230.631.8006

Special Grants

Account Number

Fund

31708.1701

Cultural Arts Corridor Grant

Project Number

Project Title

Budgeted Item? No

Current Budget \$ -

Funds Obligated \$ -

Current Balance \$ -

Does item have a cost? No

Item Cost \$ -

Budget Adjustment Attached? Yes

Budget Adjustment \$ 1,700,000.00

Remaining Budget \$ 1,700,000.00

V20140710

Previous Ordinance or Resolution #

Original Contract Number:

Approval Date:

Comments: Please note that the Walton Family Foundation grant letter is unsigned. Upon City Council acceptance of the grant, they will digitally sign the letter and provide that final copy to the City for the Mayor's signature.



MEETING OF DECEMBER 5, 2017

TO: Mayor Lioneld Jordan
Don Marr, Chief of Staff

CC: Chris Brown, City Engineer
Theodore Jack, Park Planning Superintendent

FROM: Peter Nierengarten, Director of Sustainability

DATE: November 17, 2017

SUBJECT: **Walton Family Foundation Design Excellence Program - Cultural Arts Corridor**

RECOMMENDATION:

Staff recommends approving a resolution accepting the Walton Family Foundation Design Excellence Program grant in the amount of 1.77 million dollars to fund the design of the Fayetteville Cultural Arts Corridor and approval of a budget adjustment.

BACKGROUND:

The Walton Family Foundation Design Excellence Program provides financial support to governmental organizations, school districts and non-profits that intend to develop space for public purposes in Benton and Washington Counties. The program provides planning and design expertise by world-class architects and landscape architects for public projects that incorporate sustainability, infill and adaptive reuse, energy efficiency and multi-modal accessibility. The 2017 Design Excellence Program focuses on Parks and Green Spaces.

Qualifying projects should:

- Make a compelling case for how the project will increase public access and strengthen the surrounding neighborhood
- Include a funding plan for the development of the project
- Leverage the connected trail network
- Demonstrate a commitment to sustainability
- Embody an innovative spirit, encouraging visitors, citizens, etc. to engage with the space in new ways

DISCUSSION:

The City of Fayetteville submitted for consideration the design of an interactive outdoor Cultural Arts Corridor along the Razorback Regional Greenway in downtown Fayetteville. The corridor is anchored by the Fayetteville Public Library and Fay Jones natural area on the south, and the Walton Arts Center and Dickson Street Entertainment District on the north. The Razorback Regional Greenway is the connective element that links downtowns' cultural, educational and arts destinations to surrounding neighborhoods. The upcoming construction of the Fayetteville

Public Library expansion and Theatre Squared, in addition to rapid development in areas surrounding the corridor, is expected to increase walking and bicycling along the Greenway.

The City specifically requested design assistance to improve infrastructure and public spaces on 12 acres of city-owned property within the 50-acre Cultural Arts Corridor. Design components could include festival space, public plazas, proximate parking, streetscape enhancements, trail improvements, natural spaces, outdoor classrooms, green infrastructure and streamside access. Specific design elements for the corridor will be determined through an open public engagement process. The Cultural Arts Corridor presents a once-in-a-lifetime opportunity to improve the existing Razorback Regional Greenway through access to natural and urban public spaces, cultural and educational attractions, the University of Arkansas, downtown square and the wider city and region.

As a selected recipient of this grant the Walton Family Foundation has committed to fund 100% of the design of the public spaces and infrastructure improvements over a 24-month timeline. As a condition of the grant, design of the project must be completed by one of the Architecture/Landscape Architecture firms that has been pre-approved as part of the Northwest Arkansas Design Excellence Program. This will necessitate adding this pre-approval requirement to the City's Request for Qualifications (RFQ) for design service for this project.

BUDGET/STAFF IMPACT:

By accepting this grant, the City of Fayetteville will commit to funding and implementing the final approved designs by 2021. The Walton Family Foundation grantee is aware that the primary funding source for construction is contingent upon a voter approved infrastructure improvement bond. While this is the primary source of funding for the project, staff has identified numerous supplementary funding sources that may also be utilized to help pay for portions of the construction of the design elements identified in the Cultural Arts Corridor. These may include; Capital Improvement Plan sidewalk funds, dedicated trail funds, grants and philanthropic donations. These supplementary funds do not have the capacity to support the full construction without a voter approved improvement bond.

Attachments:

Walton Family Foundation Design Excellence Program Grant Letter
Walton Family Foundation Design Excellence Grant Application
Cultural Arts Corridor Map
Budget Adjustment

November 14, 2017

Lioneld Jordan
Mayor
City of Fayetteville
113 W. Mountain Street
Fayetteville, AR 72701

RE: Grant #2017-1739

Dear Mayor Jordan,

It is my pleasure to inform you that the Walton Family Foundation, Inc. ("Foundation") has approved a grant in the amount of \$1,770,000.00 to the City of Fayetteville ("Grantee"). The project term will be December 1, 2017 to December 1, 2019. This grant is subject to the following terms and conditions:

- Purpose:** The purpose of the grant is for the design of a series of urban spaces creating the Cultural Arts Corridor (CAC) in downtown Fayetteville, Arkansas as part of the Design Excellence program. This grant is more fully described in Grantee's proposal dated October 4, 2017. Grantee agrees to use all grant funds exclusively for the grant's purposes. Any changes in these purposes must be authorized in advance by the Foundation in writing.
- Amount: One Million, Seven Hundred Seventy Thousand Dollars (\$1,770,000.00).**

Grant payments will be made as follows:

Installment	Amount	Requirement
#1	\$875,000.00	Payable January 2018, contingent upon completion of signed grant agreement
#2	\$20,000.00	See Installment Two
#3	\$437,500.00	See Installment Three
#4	\$437,500.00	See Installment Four

- Payable:** Initial installment of \$875,000.00 shall be payable January 2018, contingent upon receipt of this completed letter from Grantee acknowledging the terms and conditions set forth herein.

Installment Two: Payment of up to \$20,000 will be made upon receipt of documented travel expenses. Travel expenses should include travel for each firm that interviews during the design firm selection process. It can pay for a trip by Grantee to conduct a final interview and/or visit a relevant precedent site with the selected design firm before design development begins.

Installment Three: Payment of \$437,500 will be made upon receipt of schematic design including renderings and a preliminary cost estimate, compared to budget. In addition, Grantee shall give the Foundation written confirmation that the project is tracking with the anticipated construction budget or that additional funding will be committed to construct the project once design is complete.

Installment Four: Final payment of up to \$437,500 will be made upon receipt of design development drawings including renderings and a preliminary cost estimate, compared to budget. In addition, the Grantee shall give the Foundation written confirmation that the project scope remains consistent with the original intent and that the project is tracking with the anticipated construction budget or that additional funding will be committed to construct the project once design is complete.

All terms must be met by no later than December 1, 2019 to be eligible for payment.

4. **Accounting:** (a) The Foundation encourages, whenever feasible, the deposit of grant funds in an interest-bearing account. For purposes of this letter, the term "grant funds" includes the grant and any income earned thereon.

(b) Grantee will maintain records of receipts and expenditures made in connection with the grant funds and will keep these records during the period covered by the Grantee's reporting obligations specified in paragraph 5 and for at least four years thereafter ("Maintenance Period"). Grantee will make its books and records in connection with the grant funds available for inspection by the Foundation during normal business hours as the Foundation may request at any time during the Maintenance Period.

5. **Reporting and Evaluation:** Grantee will provide the Foundation with financial and narrative reports by the due dates listed in the report schedule below. Each report shall include an account of expenditures of grant funds, and a brief narrative of what was accomplished (including a description of progress made in fulfilling the purposes of the grant and a confirmation of Grantee's compliance with the terms of the grant).

Report Date	Report Type
5/1/2018	Interim Narrative
7/31/2018	Interim Financial and Narrative
12/15/2018	Interim Financial and Narrative
5/31/2019	Final Financial and Narrative

Success will be measured against the outputs and outcomes described in Appendix A.

All reports will be sent electronically to HomeRegion@wffmail.com. Please reference Grant #2017-1739 on all reports submitted.

Grantee payments are always contingent upon the Foundation's approval of Grantee's operations based on the above reports and the Foundation's satisfaction with such information as it chooses to obtain from other sources.

6. **Representations:** Grantee represents and warrants to the Foundation that:

(a) Grantee is an organization in good standing, is either an organization described in section 501(c) (3) of the Internal Revenue Code ("Code") or a governmental unit, and is not a "private foundation" described in section 509(a) of the Code. Grantee will promptly notify the Foundation of any change in Grantee's tax status under the Code.

(b) In no event will Grantee use any grant funds:

(i) to carry on propaganda, or otherwise to attempt, to influence legislation;

(ii) to influence the outcome of any specific public election or to carry on, directly or indirectly, any voter registration drive; or

(iii) to undertake any activity other than for a charitable, educational or other exempt purpose specified in section 170(c)(2)(B) of the Code.

(c) Grantee will comply with all applicable laws and regulations.

7. **Repayment:** Grantee agrees to repay to the Foundation any portion of the grant funds not used for the grant's purposes. In addition, the Foundation may discontinue any further payments to Grantee, and may direct Grantee to repay any unexpended grant funds to the Foundation, if any of the following events occurs:

(a) Grantee ceases to maintain its tax-exempt status as described in paragraph 6(a) above;

(b) Grantee fails to comply with the terms of this letter; or

(c) There is a material change in Grantee's key personnel that in the sole opinion of the Foundation adversely affects Grantee's management of the grant.

8. **Release and Indemnity:** Unless prohibited by law, Grantee shall release, indemnify, defend and hold harmless the Foundation and its directors, officers, employees and agents from and against any and all claims, actions, suits, demands, damages, losses, expenses and liabilities, arising out of or related in any way to the actions or omissions of Grantee (or its directors, officers, employees, agents or contractors) in connection with the Grant and the project funded by the Grant, except to the extent caused by the Foundation's (or its directors', officers', employees' or agents') negligent actions or omissions. Grantee further agrees to carry insurance in such forms and amounts as are commercially reasonable and appropriate to cover Grantee's operations and to enable Grantee to indemnify and defend the Foundation as provided hereunder.

9. **Grant Publicity:** Grant publicity related to this grant consistent with Grantee's normal practice is permitted, subject to the following provisions. The Foundation expects any announcements and other publicity to focus on Grantee's work and the project or issue funded by the grant. Recognition of the Foundation's role in funding the project is permitted, provided that the timing, content and strategic focus of such publicity should be approved by the

Foundation contact listed in paragraph 11. Publicizing the grant and the Foundation in Grantee's publications and communications in a manner consistent with similar grants obtained by Grantee is permitted.

The Foundation may ask Grantee to provide illustrations, photographs, videos, recordings, information or other materials related to the grant (collectively "Grant Work Product") for use in Foundation communications including the Foundation's website, annual report, newsletters, board materials, presentations, communications and other publications. Grantee agrees to provide the Foundation with such items upon the Foundation's reasonable request and hereby grants to the Foundation and anyone acting under the authority of the Foundation a fully paid-up, world-wide, right and license to use, reproduce, display and distribute the Grant Work Product in connection with the Foundation's charitable operations and activities. In connection therewith, Grantee shall be responsible for obtaining all necessary rights and permissions from third parties for the Foundation to use the Grant Work Product for these purposes. By signing this Agreement, Grantee also acknowledges and agrees to use by the Foundation of historical, programmatic and other information relating to Grantee and the grant hereunder.

10. **Gratuities:** The Foundation desires that all of Grantee's resources be dedicated to accomplishing its philanthropic purposes. Therefore, Grantee agrees that it will not furnish the Foundation or its Board of Directors, officers, staff or affiliates with any type of benefit related to this grant including tickets, tables, memberships, commemorative items, recognition items, or any other benefit or gratuity of any kind.

11. **Contact:** For all communications regarding this grant, please contact the Foundation by email at HomeRegion@wffmail.com. Please reference Grant #2017-1739 in your communication.

We have enclosed the grant letter. By electronically signing this item the Grantee acknowledges and agrees to the terms and conditions herein. A copy of the completed document will be emailed to the Grantee through DocuSign. If the electronic signing of this item is not completed by December 1, 2017, the Foundation will consider the Grantee to have declined the grant.

On behalf of the Foundation, I extend every good wish for the success of your organization's endeavors.

Sincerely,

Kyle J. Peterson
Executive Director

ACKNOWLEDGED AND AGREED

By: _____
Lioneld Jordan (Date)
City of Fayetteville

DRAFT

Appendix A: City of Fayetteville
City of Fayetteville Cultural Arts Corridor

Outputs And Outcomes

Who will do what and how much?	By when?	Measured or evaluated by?
Goal: City of Fayetteville Cultural Arts Corridor		
Outputs		
The City will work with the Fayetteville Public Library to ensure that the FPL expansion project currently in design has trail connectivity integrated into the design that coordinates with the Cultural Arts Corridor programming needs.	12/31/17	Program records
The City of Fayetteville will interview a minimum of three candidates in person from the design firms recommended by the Design Excellence Selection Committee and select a design team for the project.	2/28/18	Correspondence describing selection criteria and final decision
The City of Fayetteville will enter into a contract with the selected design firm to produce design drawings for the overall Cultural Arts Corridor and specifically for the Fay Jones Parkland, the West Avenue and Dickson Street Plaza and the CAC Street and Trails improvements.	4/6/18	Executed contract
The design firm will create a detailed design schedule, with delivery dates for schematic design, design development and construction drawings. Updated plans and cost estimates will be submitted to WFF at each of the milestones, with recommendations from the design firm and grantee on how to proceed compared to capital construction budget estimates.	4/15/18	Copy of design schedule and milestone updates
The selected design firm will complete a schematic design including renderings and a preliminary cost estimate for the CAC.	7/31/18	Copy of plans, renderings and cost estimates
The design firm will complete a full set of construction plans, specifications, updated construction cost estimates and other necessary documents to bid the project.	3/31/19	Copy of final plans and documents
The City of Fayetteville will conduct a series of at least ten stakeholder and public input meetings to discuss collaboration, mutual interests, and to solicit public dialogue about the project. Of the ten meetings, at least one will be held each before schematic design, design development and final design. Stakeholder meetings may be in collaboration with Fayetteville Public Library expansion meetings. The city will also provide an on-line format to solicit feedback. A minimum of 1000 people will participate in the stakeholder meetings, public input sessions and through online interaction.	5/31/19	Program records
Outcomes		
The Cultural Arts Corridor final design will be approved by the necessary city boards and committees.	5/31/19	Program records
The City of Fayetteville will commit to funding construction of the approved design for the Cultural Arts Corridor.	12/01/19	Letter from mayor



Walton Family Foundation Grant Application

Name of Organization: City of Fayetteville

Name of Project/Proposal: City of Fayetteville Cultural Arts Corridor

By submitting this request for funding, the requesting organization acknowledges that The Walton Family Foundation has not previously made any promise to provide the funding requested herein and that the requesting organization has not relied to its detriment upon any statement by The Walton Family Foundation or its representatives to obtain the funding requested herein. The requesting organization further acknowledges that any approval of its grant proposal will be communicated only by, and is contingent upon execution of, a written grant agreement between the requesting organization and the Foundation signed by the Foundation's Executive Director.

Organization Name:	City of Fayetteville		
Organization Address:	113 W. Mountain Street Fayetteville, AR 72701		
Organization Telephone:	479-444-3471		
Tax ID Number:	Government Entity		
Head of Org/Authorized Signatory:	Lioneld Jordan		
Signatory Address (if different than above):			
Head of Org Email:	Mayor@fayetteville-ar.gov		
Key Contact:	Leif Olson		
Key Contact email:	lolson@fayetteville-ar.gov		
Key Contact phone:	479-575-8269		
Project Name:	City of Fayetteville Cultural Arts Corridor	Proposal Date:	10/4/2017
Total Requested:	\$1,770,000.00		

Grant Period:	From 12/1/2017 To 12/1/2019	
WFF Program Officer:	Jeremy Pate	

1. Request/Purpose of Grant

Briefly summarize the purpose and need for the project/program, the requested amount, and any requested terms (such as multiple years or matching). The budget template attached is the location for detailed financial information. This space is really just an abstract of the proposal.

The purpose of this grant request is to fund the design of an interactive outdoor Cultural Arts Corridor (CAC), in downtown Fayetteville. This corridor is anchored by the Fayetteville Public Library (FPL) and Fay Jones natural area on the south, and the Walton Arts Center and Dickson Street Entertainment District to the north. Many of the City's major arts and entertainment destinations are located along the Razorback Regional Greenway within this corridor: the Walton Arts Center, Theater Squared, Nadine Baum Studios, and the Fayetteville Public Library. The City envisions the CAC area as a multi-block corridor that has an overall cohesive context while also providing a variety of landscapes, destinations and points of interest that will enhance and enrich the experiences of residents and visitors alike.

The City is interested in developing the CAC through a sustainable landscape design that incorporates the six fundamental strategies that were identified in the Fayetteville Downtown Master Plan:

- *Creation of a series of interconnected special places* – develop active and green transportation linkages to the major cultural, educational, entertainment, open space and education hubs located within the downtown area.
- *A superbly walkable environment* – this should be showcased as downtown's hallmark
- *Smart about parking* – the parking need must be met but efficiently and sustainably so that the sense of place is enhanced, not weakened in the process.
- *Smart rules* – the establishment of zoning and development rules that attract and secure a caliber of development worthy of downtown.
- *Special places* – recognize and encourage an experience-based economy by focusing and expanding on arts, culture, and entertainment experiences.
- *Living downtown* – it must be made a priority to get more people living downtown.

The City has identified three major design elements for study in the CAC:

1. *The Fay Jones Parkland adjacent to the Razorback Regional Greenway (RRG) and the Fayetteville Public Library (FPL).* This area has the potential to showcase how to transition from natural and passive spaces to a more urban environment within a small geographic space. This parkland is a natural, tranquil and contemplative environment that can also provide an excellent trail connection from the RRG to the FPL expansion site which is currently under design. The topography and setting of the Fay Jones natural area presents a particularly complicated, and consequently rewarding design challenge. For instance, the challenging topography could be designed with innovative drainage infrastructure to capture and infiltrate stormwater runoff from the Library site through a series of low-impact stormwater features. The natural wooded sloping basin on the Fay Jones natural area may also be suitable for the development of a formal or informal outdoor amphitheater and outdoor learning space. The transition from the Library on the hill to the natural areas along the Tanglewood Branch should be creatively designed to incite curiosity, drawing individuals visiting one location to also visit the other
2. *The West Avenue and Dickson St. Plaza.* The City is interested in exploring designs for developing the West Avenue parking lot with structured parking, liner buildings and an urban plaza. The West Avenue parking lot has been the subject of several design studies and project proposals over the years. The future programing of this parking lot could happen in any

number of ways and the City is looking for a design that can accomplish multiple goals. Currently the lot contains 290 parking spaces that generate revenue for the repayment of bonds issued to fund the Spring Street Parking Deck. Ultimately, the City is looking for a development design that creates a public open space or plaza that is flexible in its' use, retains the RRG, explores parking and access solutions, and creates platted lots that can be marketed to the private sector to recover the costs associated with the public amenities created.

3. *Street and Trail Improvements.* The streets and trail connections are the transportation corridors that will provide residents and visitors with the access to the amenities within the CAC. Pedestrians will utilize access that is safe, comfortable, and convenient to destinations and open spaces. Downtown and Entertainment parking space scarcity during peak time periods, such as major theatrical shows, will also be better balanced by creating a “park once and walk” environment. And finally, the Razorback Regional Greenway (RRG) is perhaps the most important connective element that links downtowns' cultural, educational and arts destinations to each other and the surrounding neighborhoods. The natural vegetative corridor that is the RRG in this location is a welcome respite from the urban development that surrounds it. This corridor can be strengthened and unified through a strong design concept, additional public art, gathering and seating areas and access to the existing natural features such as Tanglewood Branch.

2. Background

Include a basic description and history of the organization (2-3 paragraphs). Please also note the other organizations with which you are collaborating.

Cities are inherently dynamic with development and redevelopment happening over long periods of time as communities and markets shape land use priorities. The proposed Cultural Arts Corridor (CAC) in downtown Fayetteville is the latest reinvention of these properties. These areas were historically a mixture of industrial, commercial, and residential uses near the Frisco Rail Line. Over time the industrial uses have transitioned to the commercial, residential and cultural arts uses that prevail in the CAC today. This project will help lead change and the shaping of the built environment towards a setting that is rich in experiences and readably accessible to the community.

This area was identified in the 1980's for redevelopment through the site selection for the eventual development of the Walton Arts Center in the early 1990's. The success of the Walton Arts Center led to the economic boom of the Dickson St. area which is today identified as the Entertainment District. Likewise, the construction of the Fayetteville Public Library in 2004 changed the neighborhood and activity level in the area south and west of the downtown square. The recent groundbreaking for Theatre Squared in the CAC further cements this area as a cultural arts district. The City anticipates working in close collaboration with all three major cultural arts anchors within the district.

3. Output and Outcome Performance Measures

Outputs And Outcomes			
Who will do what and how much?	By when?	Measured or evaluated by?	Notes.
Goal: City of Fayetteville Cultural Arts Corridor			
Outputs			
The City will work with the Fayetteville Public Library to ensure that the FPL expansion project currently in design has trail connectivity integrated into the design that coordinates with the Cultural Arts Corridor programming needs.	12/31/17	The City of Fayetteville will provide a copy of any applicable public documents at the request of the Walton Family Foundation.	
The City of Fayetteville will interview a minimum of three candidates from the design firms recommended by the Design Excellence Selection Committee and select a design team for the project.	02/28/18	Correspondence describing selection criteria and final decision	
The City of Fayetteville will enter a contract with the selected design firm to produce design drawings for the overall Cultural Arts Corridor and specifically for the Fay Jones Parkland, the West Avenue and Dickson Street Plaza and the CAC Street and Trails improvements.	04/06/18	Executed contract	
The design firm will create a detailed design schedule, with delivery dates for schematic design, design development and construction drawings. Updated cost estimates will be provided at each of the milestones, with recommendations from the design firm and grantee on how to proceed compared to capital construction budget estimates.	4/15/2018	Copy of design schedule	
The design firm will complete a full set of construction plans, specifications, updated construction cost estimates and other necessary documents to bid the project.	03/31/19	Copy of final plans and documents	
The City of Fayetteville will conduct a series of at least 10 stakeholder and public input meetings to discuss collaboration, mutual interests, and to solicit public dialogue about the project. Of the ten meetings, at least one will be held each before	05/31/19	Program records	

schematic design, design development and final design. Stakeholder meetings may be in collaboration with Fayetteville Public Library expansion meetings. The city will also provide an on-line format to solicit feedback. A minimum of 1000 people will participate in the stakeholder meetings, public input sessions and through online interaction.			
Outcomes			
The Cultural Arts Corridor final design will be approved by the Fayetteville Planning Commission (or equivalent approval if not required by Planning Commission).	05/31/19	Program records	
The City of Fayetteville will commit to funding construction of the approved design for the Cultural Arts Corridor.	12/01/19	Letter from mayor	
The city will award the first construction contract for the Cultural Arts Corridor construction.	06/01/20	Copy of contract	
Park construction will be completed according to the approved plans, and verified in writing by the design firm.	12/31/21	Inspection results by WFF and written confirmation by design firm	

4. Evaluation of Proposed Project

Please describe how you will evaluate the project moving forward. You do not need to restate what is in section 3. Here you only say how the information will be collected.

The City of Fayetteville will provide all financial and narrative reports as requested during the project and through the construction phase of its' many elements. The parkland, plaza, street and trail infrastructure projects will be maintained by the City of Fayetteville in perpetuity. The City anticipates that these parkland and transportation infrastructure improvements will spur economic growth in the downtown and entertainment district areas. This economic growth will catalyze further investments in these areas and attract residents and visitors to utilize and enjoy these spaces. The City will evaluate the short-term success of this grant by how many people are engaged in the design of the three major elements; streets and trails, Fay Jones Parkland and the West Ave. parking lot development and by the level of consensus for the final landscape and architecture plans. A successful fulfillment of this grant will be design solutions that can be utilized to secure financing for the eventual construction of amenities. The City will evaluate the long-term success of the Cultural Arts Corridor through the expected increased activity and economic development. Tools for long-term success evaluation may include: • Increased property value within the CAC over time, • Increased Fayetteville Public Library cardholders, circulation, and visitor usage, • Addition of commercial, residential or special use space in the CAC over time, • Increased trail users and pedestrians within the district,
--

- Completed build-out of the West Ave. parking lot that balances parking, public open space and commercial and residential development,
- Completed street improvements that include, sidewalks, street trees, transit shelters and lighting.

If an external third party evaluation will be completed, describe their evaluation plan.

NA

5. Financial Information/Sustainability

Also, please briefly describe the plan to make the project or organization sustainable after the grant period (if applicable).

The City of Fayetteville will provide on-going maintenance of all the public assets that get constructed from this design process. The City believes that these projects will capitalize on the synergy created by connecting anchor destinations with the Razorback Regional Greenway and additional street improvements. Additionally, the City anticipates that providing safe and convenient active transportation access between the two anchor areas will more efficiently utilize the scarcity of parking resources within the downtown area. Ultimately, the economic development potential of the cultural assets in and adjacent to the CAC will provide future revenue for the City, thus creating a virtuous cycle of revenue generation and investment within the downtown area.

6. Board Members

Please provide us with a list of your organization's board members.

Mayor Lioneld Jordan

City Council:

Ward 1 Position 1 - Adella Gray
 Ward 1 Position 2 - Sarah Marsh
 Ward 2 Position 1 - Mark Kinion
 Ward 2 Position 2 - Matthew Petty
 Ward 3 Position 1 - Justin Tennant
 Ward 3 Position 2 - Sarah Bunch
 Ward 4 Position 1 - John LaTour
 Ward 4 Position 2 - Alan Long

7. Management/Key People Involved

Project and Organization Management – List the 1-3 people involved in managing the project and give 2-4 sentence bios

- **Peter Nierengarten, Sustainability Director.** Peter is the Sustainability and Parking Director for the City of Fayetteville. He is a passionate supporter of sustainable development and investment in bicycle and pedestrian infrastructure, organic food production, creative reuse and recycling, energy conservation, green stormwater, public transportation, rainwater harvesting and composting. He is very interested in promoting sustainability and livability for the City of Fayetteville and advancing the six goals of City Plan 2030. Peter is a 2001 graduate of the University of Arkansas with undergraduate and master's degrees in Civil Engineering. He has over 14 years of experience in municipal government in project and program
- **Ted Jack, Parks Planner.** Ted received his Bachelor of Landscape Architecture degree and Master of Science in Environmental Planning and Management from Louisiana State

University. His master's thesis was titled "Greenways and Their Effect on the Quality of Life in Cities." Ted is a Certified Recreation and Park Professional and as Assistant Superintendent at the Recreation and Park Commission for the Parish of East Baton Rouge (BREC), he managed the Planning, Capital Improvements, Maintenance, and Conservation Departments and strategic planning for the agency. BREC is recognized as one of the top park systems in the country with numerous recognitions awarded to the system and its staff from several organizations, including the National Recreation and Park Association (NRPA). Ted has master planned and designed dozens of parks and special use facilities and has served on teams that have planned and designed projects involving many agencies and groups, such as the integration of the Main Library in Baton Rouge into Independence Community Park. Ted also worked for Louisiana State University as manager of campus planning for four years.

- **Chris Brown, City Engineer.** Chris is the City Engineer for the City of Fayetteville. In his current role, he manages a team that provides development review, design, land acquisition, stormwater, and inspection services for the City. His team also manages the trails design and coordination program in the City. Chris is a 1994 graduate of the University of Arkansas, and is a member of the Arkansas Academy of Civil Engineering. He has over 23 years of experience in municipal government, at all levels of project design and management.

8. Applicant self-assessment of risks to success

Please identify any risks to project success.

The City of Fayetteville is committed to developing the Fay Jones Parkland to provide connectivity between the Razorback Regional Greenway and the Fayetteville Public Library. This project has very strong support from the Fayetteville Public Library and the City.

The City acknowledges that the West Ave Parking lot development scenario is a complicated project. There are numerous stakeholders invested in this land and its use. The City is hopeful that a design professional can help to develop a design that will adequately address stakeholder concerns over parking, greenspace and commercial activity.

The City also recognizes that the street and parkland improvement designs will need to be identified and prioritized for a future bond issue. These projects will need to stand on their own and be significant enough to justify their inclusion in a bond issue.

Lessons Learned – If you have previously been a grantee of The Walton Family Foundation, please discuss any missed targets, the lessons learned, and how you aim to address those moving forward.

The City of Fayetteville has been fortunate to work on numerous projects with the Walton Family Foundation with great success and we anticipate similar outcomes with this request.

9. Project Budget

	Year 1	WFF REQUEST	Year 2	WFF REQUEST	TOTAL PROJECT BUDGET	WFF REQUEST
	PROJECT BUDGET		PROJECT BUDGET			
PERSONNEL EXPENSES (for this project only)						
Salaries	\$0	\$0	\$0	\$0	\$0	\$0
Benefits	\$0	\$0	\$0	\$0	\$0	\$0

Other	\$0	\$0	\$0	\$0	\$0	\$0
PERSONNEL SUBTOTAL	\$0	\$0	\$0	\$0	\$0	\$0
DIRECT EXPENSES (for this project only)						
Travel	\$20000	\$20000	\$0	\$0	\$20000	\$20000
Meetings/Events	\$0	\$0	\$0	\$0	\$0	\$0
Printings/Publications/Electronic	\$0	\$0	\$0	\$0	\$0	\$0
Postage	\$0	\$0	\$0	\$0	\$0	\$0
Telephone	\$0	\$0	\$0	\$0	\$0	\$0
Supplies	\$0	\$0	\$0	\$0	\$0	\$0
Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Other	\$1000000	\$1000000	\$750000	\$750000	\$1750000	\$1750000
DIRECT EXPENSES SUBTOTAL	\$1020000	\$1020000	\$750000	\$750000	\$1770000	\$1770000
PARTNER EXPENSES (for this project only)						
Consultants	\$0	\$0	\$0	\$0	\$0	\$0
Sub grants	\$0	\$0	\$0	\$0	\$0	\$0
PARTNER EXPENSES SUBTOTAL	\$0	\$0	\$0	\$0	\$0	\$0
Overhead	\$0	\$0	\$0	\$0	\$0	\$0
EXPENSE TOTAL	\$0	\$0	\$0	\$0	\$0	\$0
INCOME CATEGORIES (for this grant only)						
Request from WFF	\$0		\$0		\$0	
Other Foundations	\$0		\$0		\$0	
Public Agencies	\$0		\$0		\$0	
Corporations	\$0		\$0		\$0	
Individuals	\$0		\$0		\$0	
Earned Revenue	\$0		\$0		\$0	
Other	\$0		\$0		\$0	
INCOME TOTAL	\$0		\$0		\$0	

Budget Narrative:

Project Budget Narrative Guidance for WFF Proposals

For each budget category, include a brief description for the requested funds.

Expense Categories & Narrative Requirements

I. Personnel

- **Salaries:**
- **Benefits:**
- **Other:**

II. Direct Expenses

- **Travel:**
- **Meetings/Events:**
- **Other:**

III. Partner Expenses

- **Consultants:**
- **Sub Grants:**

IV. Overhead

-

V. Income Categories (for this grant only)

- **Other Foundations:**
- **Public Agencies:**
- **Corporations:**
- **Other:**

10. Other information

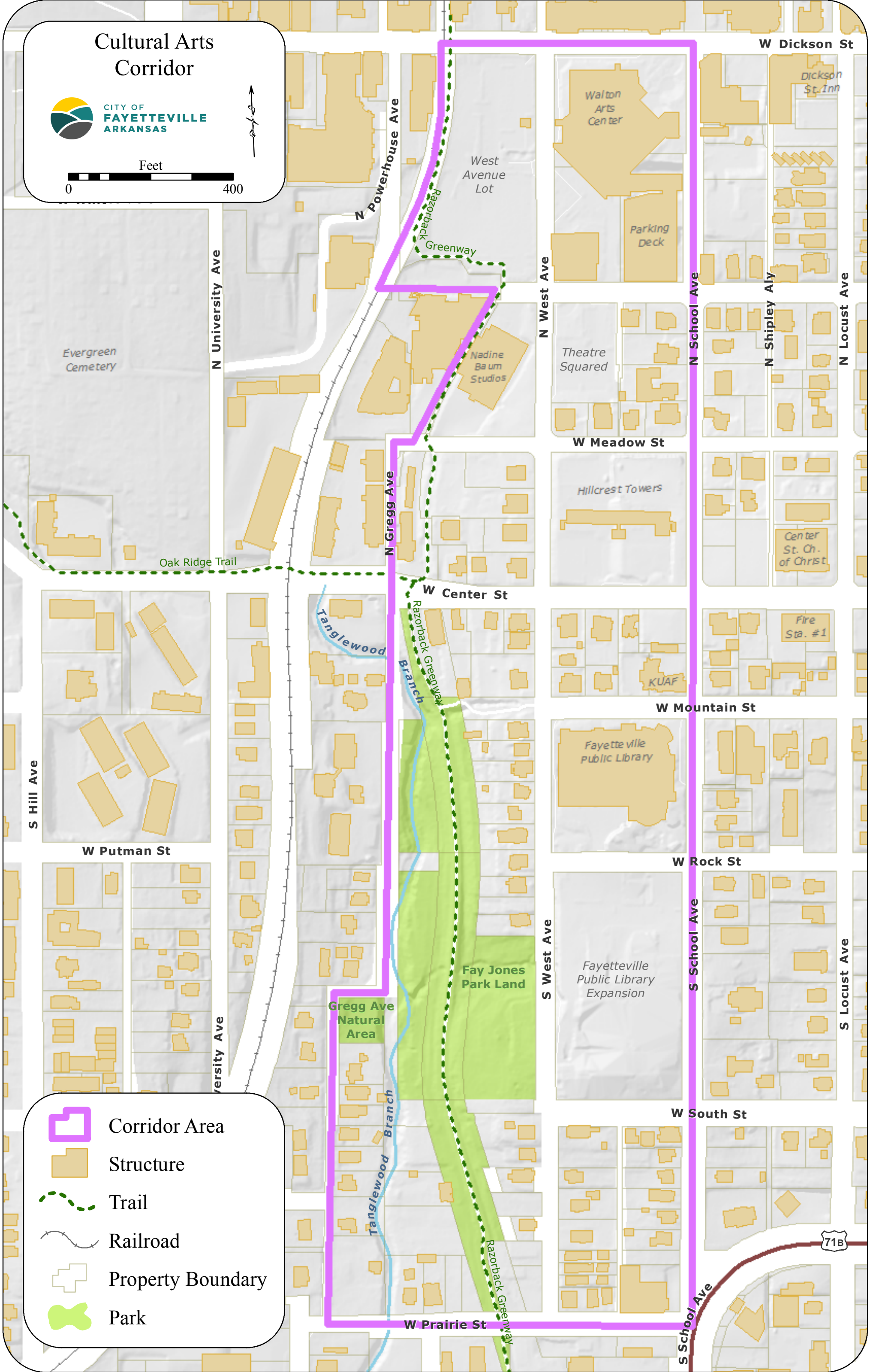
Comparable organizations and programs – Please list any other organizations that provide similar programs or services to your direct beneficiaries and describe how your program or service is different.

--

11. Other attachments

- i) Any organizational plan related to the Grant Request
- ii) IRS Determination Letter
- iii) Latest available IRS Form 990 for your organization
- iv) Latest available FYE statement or audit as well as current Income Statement and Balance Sheet
- v) Other optional narrative as necessary to explain project or organization
- vi) The organizational budget and board list
- vii) Other optional supporting illustrations or exhibits (e.g. maps, project/organization logic models)

Cultural Arts
Corridor



Corridor Area



Structure



Trail



Railroad



Property Boundary



Park

Budget Year	Division	Adjustment Number
2017	SUSTAINABILITY/RESILIENCE (631)	
	Requestor: Peter Nierengarten	

Approval of a resolution authorizing acceptance of a Cultural Arts Corridor Grant from The Walton Foundation in the amount of \$1,770,000 and approval of a budget adjustment to fund project 31708.1701 for design/professional services in the amount of \$1,750,000 and travel & training in the amount of \$20,000.

	COUNCIL DATE:	12/5/2017
	LEGISTAR FILE ID#:	2017-0628
	<i>Liz Hutchens</i> 11/20/2017 2:50 PM	
	Budget Director	Date
	TYPE:	
DESCRIPTION:		
GLDATE:		
POSTED:	/	
RESOLUTION/ORDINANCE		

[illegible]



City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2017-0660

Agenda Date: 12/5/2017

Version: 1

Status: Agenda Ready

In Control: City Council Meeting

File Type: Resolution

Agenda Number: C. 2

THEATRESQUARED, INCORPORATED:

A RESOLUTION TO EXPRESS THE CITY COUNCIL'S ACCEPTANCE AND APPROVAL OF THEATRESQUARED, INCORPORATED'S PLEDGES AND FINANCIAL COMMITMENTS AS SUFFICIENT TO ENSURE COMPLETION OF THEATRESQUARED'S \$31,500,000.00 THEATER PROJECT, AND TO AUTHORIZE MAYOR JORDAN TO INVEST THE PROMISED \$3,100,000.00 AS CONSTRUCTION REIMBURSEMENTS PURSUANT TO THE CONTRACT OF JUNE 28, 2017

WHEREAS, Paul Becker, Chief Financial Officer of the City of Fayetteville has reviewed the underlying documentation which supports the financial commitments and pledges necessary to complete the project including about \$21,300,000.00 in pledges and a loan commitment of \$18,500,00.00 for this estimated \$31,500,000.00 project; and

WHEREAS, Paul Becker has found the financial documentation acceptable and sufficient to ensure that TheatreSquared, Inc. has the necessary funding in place to complete the theater project as approved by the Fayetteville City Council and Planning Commission; and

WHEREAS, Paul Becker has noted that TheatreSquared, Inc. has chosen to not require a performance bond from the contractor because TheatreSquared believes the cost of such performance bond would be greater than the risk of non-performance by the contractor, Baldwin and Shell.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1. That the City Council of the City of Fayetteville, Arkansas hereby agrees with the analysis and conclusions of Chief Financial Officer Paul Becker that TheatreSquared, Incorporated has acceptable and sufficient pledges and financial commitments to ensure it can complete its theater project as approved by the City Council and Planning Commission, and therefore authorizes Mayor Jordan to invest the budgeted \$3,100,000.00 as construction reimbursement payments pursuant to Fayetteville's Contract with TheatreSquared, Inc. of June 28, 2017.

City of Fayetteville Staff Review Form

2017-0660

Legistar File ID

12/5/2017

City Council Meeting Date - Agenda Item Only

N/A for Non-Agenda Item

Paul Becker

11/13/2017

CHIEF FINANCIAL OFFICER (110)

Submitted By

Submitted Date

Division / Department

Action Recommendation:

Acceptance of funding obtained by TheatreSquared and authorization to reimburse TheatreSquared up to \$3,100,000 for a portion of approved contracts for the construction of the new theater project.

Budget Impact:

1010.090.6600-5740.00

General Fund

Account Number

Fund

Project Number

Project Title

Budgeted Item? Yes

Current Budget

Funds Obligated

Current Balance

\$ -

Does item have a cost? Yes

Item Cost

Budget Adjustment Attached? No

Budget Adjustment

Remaining Budget

\$ -

V20140710

Previous Ordinance or Resolution #

Original Contract Number:

Approval Date:

Comments:



**CITY OF
FAYETTEVILLE
ARKANSAS**

CITY COUNCIL MEMO

MEETING OF DECEMBER 5, 2017

TO: Mayor and City Council
FROM: Paul A Becker, Chief Financial Officer
DATE: November 13, 2017

SUBJECT: Acceptance of Funding obtained by TheatreSquared and authorization to reimburse TheatreSquared up to \$3,100,000 for a portion of approved contracts for the construction of the new theater project.

RECOMMENDATION:

BACKGROUND:

On March 7, 2017, the City Council approved resolution 68-17 which approved a budget adjustment to provide funding of \$3,100,000 for an investment in the construction of a new theater for TheatreSquared.

DISCUSSION:

The resolution approved by the City Council on March 7 2017, authorized the Mayor to execute an agreement between the City and Theatresquared which was subsequently done. This agreement provided that the City review and express acceptance of the funding obtained by TheatreSquared to assure the City that the project had the necessary financial support to complete the project. In my capacity as Chief Financial Officer of the City of Fayetteville, I have reviewed the underlying documentation which supports the financial commitments and pledges necessary to complete the project. I found the documentation adequate to insure the City that TheatreSquared has the necessary funding in place to complete the project.

The estimated cost of the project was found to be \$31,500,000 and the pledges supporting the project were in excess of \$21,300,000 at the end of October 2017. In addition, TheatreSquared has obtained a loan commitment of \$18,500,000 to complete the Project.

One financial risk to the completion of the project was noted. TheatreSquared did not require a performance bond. A performance bond is typically used in large construction projects to financially guarantee performance by the contractor. The City is required, by law, to obtain a performance bond from the contractor or contract manager on building construction projects undertaken by the City. TheatreSquared did not require a performance bond from Baldwin and Shell because it was felt the cost required to obtain the bond was greater than the risk of non-performance by Baldwin and Shell because of their size and positive reputation.

Recommendation:

Based on the above facts, I recommend the City Council authorize this resolution to fulfil the City's pledge of up to \$3,100,000 in construction reimbursements for the following construction packages which were appropriately bid:

- Masonry Work
- Structural & Misc. Steel Material
- Storefront Glazing
- Metal Stud Work

This request would also allow for the reimbursement of in progress payments of work pertaining to these packages upon completion of the work and demonstration of payment by TheatreSquared and verification by City personnel that the work had in fact been done.

Although I don't believe the risk of non-performance by Baldwin and Shell is major, it is a risk that should be understood and factored into this decision.

BUDGET/STAFF IMPACT:

This resolution provides for construction reimbursements of up to \$3,100,000 to TheatreSquared Inc. for the construction of a new theater on Spring Street.

Attachments:

- Staff Review form
- City Council Memo
- Original Contract



113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Resolution: 68-17

File Number: 2017-0118

THEATRESQUARED PROPOSED PROJECT:

A RESOLUTION TO APPROVE A BUDGET ADJUSTMENT OF THREE MILLION ONE HUNDRED THOUSAND DOLLARS (\$3,100,000.00) TO INVEST IN THE THEATRESQUARED PROPOSED PROJECT TO BE BUILT ON CITY PROPERTY LEASED TO THEATRESQUARED, INC.

WHEREAS, Fayetteville has supported the performing arts for decades beginning with the funding in conjunction with the University of Arkansas (which used a Helen Walton grant) for the construction of the Walton Arts Center; and

WHEREAS, Fayetteville also purchased the land upon which it built the Walton Arts Center Parking Lot which served a vital role of providing sufficient parking to support the creation of a Dickson Street Entertainment District; and

WHEREAS, Fayetteville voters dedicated millions of sales tax dollars to build the original Walton Arts Center and recently dedicated many millions more of Hotel, Motel and Restaurant taxes to help finance the recent substantial enhancement and enlargement of the Walton Arts Center; and

WHEREAS, the City Council approved a very long term lease of the Spring Street Parking Lot to TheatreSquared, Inc. so it could construct a major new theater project costing about Thirty Million Dollars (\$30,000,000.00) partially funded by a Walton Family Foundation Challenge Grant of Nine Million Dollars (\$9,000,000.00); and

WHEREAS, TheatreSquared, Inc. has requested that the City of Fayetteville commit to invest Seven Million Dollars (\$7,000,000.00) towards this project; and

WHEREAS, this significant theater project is projected to generate tens of millions of dollars in increased economic activity in our Entertainment District during construction and about Five

Million Dollars (\$5,000,000.00) annually in economic output when operational; and

WHEREAS, Mayor Jordan believes this theater project built on city-owned land will significantly enhance our Entertainment District and would be a wise investment in Fayetteville's future economic vitality; and

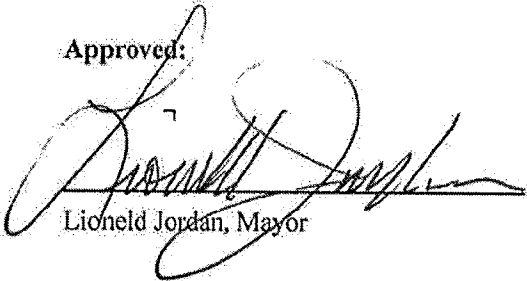
WHEREAS, Mayor Jordan fully supports this endeavor, but believes the City of Fayetteville cannot afford the Seven Million Dollars (\$7,000,000.00) requested by TheatreSquared and instead should invest Three Million One Hundred Thousand Dollars (\$3,100,000.00) from the City's general fund reserves to help make the TheatreSquared, Inc.'s project a reality.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

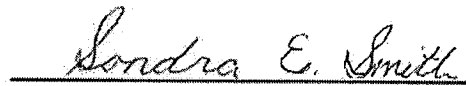
Section 1. That the City Council of the City of Fayetteville, Arkansas hereby approves a budget adjustment of Three Million One Hundred Thousand Dollars (\$3,100,000.00) to enable Mayor Jordan to pledge and then invest that amount into the TheatreSquared, Inc.'s proposed theater project pursuant to a proper agreement which the City Council authorizes Mayor Jordan to execute.

PASSED and APPROVED on 3/7/2017

Approved:


Lioneld Jordan, Mayor

Attest:


Sondra E. Smith, City Clerk Treasurer





City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2017-0118

Agenda Date: 3/7/2017

Version: 1

Status: Passed

In Control: City Council Meeting

File Type: Resolution

Agenda Number: C. 6

THEATRESQUARED PROPOSED PROJECT:

A RESOLUTION TO APPROVE A BUDGET ADJUSTMENT OF THREE MILLION ONE HUNDRED THOUSAND DOLLARS (\$3,100,000.00) TO INVEST IN THE THEATRESQUARED PROPOSED PROJECT TO BE BUILT ON CITY PROPERTY LEASED TO THEATRESQUARED, INC.

WHEREAS, Fayetteville has supported the performing arts for decades beginning with the funding in conjunction with the University of Arkansas (which used a Helen Walton grant) for the construction of the Walton Arts Center; and

WHEREAS, Fayetteville also purchased the land upon which it built the Walton Arts Center Parking Lot which served a vital role of providing sufficient parking to support the creation of a Dickson Street Entertainment District; and

WHEREAS, Fayetteville voters dedicated millions of sales tax dollars to build the original Walton Arts Center and recently dedicated many millions more of Hotel, Motel and Restaurant taxes to help finance the recent substantial enhancement and enlargement of the Walton Arts Center; and

WHEREAS, the City Council approved a very long term lease of the Spring Street Parking Lot to TheatreSquared, Inc. so it could construct a major new theater project costing about Thirty Million Dollars (\$30,000,000.00) partially funded by a Walton Family Foundation Challenge Grant of Nine Million Dollars (\$9,000,000.00); and

WHEREAS, TheatreSquared, Inc. has requested that the City of Fayetteville commit to invest Seven Million Dollars (\$7,000,000.00) towards this project; and

WHEREAS, this significant theater project is projected to generate tens of millions of dollars in increased economic activity in our Entertainment District during construction and about Five Million Dollars (\$5,000,000.00) annually in economic output when operational; and

WHEREAS, Mayor Jordan believes this theater project built on city-owned land will significantly enhance our Entertainment District and would be a wise investment in Fayetteville's future economic vitality; and

WHEREAS, Mayor Jordan fully supports this endeavor, but believes the City of Fayetteville cannot afford the Seven Million Dollars (\$7,000,000.00) requested by TheatreSquared and instead should

invest Three Million One Hundred Thousand Dollars (\$3,100,000.00) from the City's general fund reserves to help make the TheatreSquared, Inc.'s project a reality.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1. That the City Council of the City of Fayetteville, Arkansas hereby approves a budget adjustment of Three Million One Hundred Thousand Dollars (\$3,100,000.00) to enable Mayor Jordan to pledge and then invest that amount into the TheatreSquared, Inc.'s proposed theater project pursuant to a proper agreement which the City Council authorizes Mayor Jordan to execute.

City of Fayetteville Staff Review Form

2017-0118

Legistar File ID

3/7/2017

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Don Marr

2/21/2017

Chief of Staff

Submitted By

Submitted Date

Division / Department

Action Recommendation:

Approval of a budget adjustment to assist with the construction of the new Theatre2 building.

Budget Impact:

1010.090.6600-5740.00

General

Account Number

Fund

Project Number

Project Title

Budgeted Item? No

Current Budget \$

Funds Obligated \$

Current Balance \$

Does item have a cost? Yes

Item Cost \$ 3,100,000.00

Budget Adjustment Attached? Yes

Budget Adjustment \$ 3,100,000.00

Remaining Budget \$

Previous Ordinance or Resolution #

V20140710

Original Contract Number:

Approval Date:

Comments:



CITY COUNCIL AGENDA MEMO

MEETING OF MARCH 7, 2017

TO: Fayetteville City Council
FROM: Mayor Lioneld Jordan
DATE: February 21, 2017
SUBJECT: TheatreSquared – Funding Request

RECOMMENDATION:

Approval of \$3.1 Million dollars of general fund reserves towards the public funding goals requested by TheatreSquared, Inc.(attached) for the construction of a new permanent premier performing arts national theatre located at the corner of West Avenue and Spring Street. I believe this investment will cement Fayetteville's future as the Northwest Arkansas's Region Theatre District.

BACKGROUND:

TheatreSquared is a non-profit professional theatre in downtown Fayetteville offering an intimate live theatre experience for 40,000 patrons each year, the only theatre of its kind in a 150-mile radius. TheatreSquared offers visitors access to professional artists in productions that are conceived, rehearsed and performed only in Fayetteville; broadly accessible ticket prices, many of which are subsidized for Fayetteville residents; educational programs reaching 1500 Fayetteville students at no cost; and free tickets for clients of various non-profit organizations in Fayetteville. It is the top-rated attraction for Fayetteville on the on-line service TripAdvisor, and has received recognition by the American Theatre Wing, founder of the Tony Awards, as one of the nation's ten best emerging theatres. The organization is currently leasing space from the Walton Arts Center in the Nadine Baum Studio as its primary performance area, and has several satellite locations for storing equipment, offices and other supporting activities.

Growth in the organization and region suggests that the capacity of TheatreSquared has yet to be realized. A study commissioned by the theatre determined that their rapid and sustained growth over the past 10 years, a tenfold increase in audience and budget since 2009, along with national recognition and the cultural arts amenities drawing visitors to the region, compels the organization to explore opportunities for an expanded and new permanent home. Significant infrastructure challenges, operating constraints and immediate capacity issues emerged from this long-term facilities plan, resulting in a new focus on building "an intimate, state-of-the-art, and permanent home."

In August of 2015 TheatreSquared announced the award of a competitive Our Town grant from the National Endowment of the Arts to begin the design exploration process. In September, the Walton Family Foundation selected TheatreSquared as an inaugural project for the Northwest Arkansas Design Excellence Program, providing significant grant funding to support exceptional architecture and design, thereby funding the design costs for the project.

(Continued)

The City supported TheatreSquared in these grant applications, to provide a new, world-class theatre in downtown Fayetteville. After reviewing several sites to locate a new permanent home in downtown Fayetteville, where the synergy of cultural arts, entertainment and necessary supporting amenities are available, TheatreSquared determined the property best situated to add to the performing arts destination that is downtown Fayetteville is a site at the southeast corner of West Avenue and Spring Street, home to a parking lot that was utilized as a construction staging and Walton Arts Center staff parking for much of 2014-2015. This property offers the appropriate size and proximity to public parking, the Walton Arts Center, Dickson Street, and other amenities that a downtown theatre needs to thrive.

In October 2015, the City Council approved Resolution 186-15, expressing the City's support of TheatreSquared and its intent to negotiate a lease to utilize the property at the southeast corner of West Avenue and Spring Street for a new performance facility. The mayor, staff and City Attorney's office have drafted and negotiated with TheatreSquared the terms of the agreement, which were adopted by the Fayetteville City Council.

TheatreSquared received a challenge grant from the Walton Family Foundation offering a \$9 Million dollar 1 to 2 matching grant for the construction of a permanent national theatre home for TheatreSquared to be located in Fayetteville. Theatre Square is seeking public funding of \$9 Million, to help meet a Walton Family Foundation 1 to 2 match of \$9 Million dollars and to have public partnership in making this vision a reality. Their letter of request is for the Fayetteville City Council to commit \$7 Million dollars towards this amount, \$2 Million dollars from other public funds, and all remaining funds to be raised from generous community supporters. If they are able to successfully raise 22.5 Million in funding, this will bring a total investment of \$31.5 Million and the performing arts center to Fayetteville.

DISCUSSION:

Attached in this packet, is the original funding request from TheatreSquared. The economic impact of this investment is outlined in the packet provided. The economic impact will be significant and lasting. As their letter states, "...The quality of Life in our City will rise as TheatreSquared offers expanded programming, educational opportunities, and access to community members of every background."

Timing for this project is critical, as public funding is needed to raise funding to the threshold necessary to secure financing and begin construction work. "The construction pricing is contingent upon breaking ground in a few months" as communicated in their funding request.

Additionally, establishing Fayetteville as the year-round regional theatre district, helps provide diverse performances fueling our downtown economic engine, drawing national arts tourists who are already traveling to our region for Crystal Bridges and many other cultural and entertainment experiences and to experience Fayetteville's unique sense of place.

Mike Harvey, the Chief Operating Office and current Interim Director for the NW Arkansas Council provided information from Economist Kathy Deck of the University of Arkansas Center for Business and Economic Research projects that states during construction alone this new building to be located in Downtown Fayetteville will generate \$50.6 Million dollars in economic output and over 350 jobs. And once the doors are open the economic impact will continue to pay back for decades to come, starting at \$5 Million dollars of economic output in the theatre's first year and growing each subsequent year.

(Continued)

This will become a publically owned building on public lands. Providing public funding helps make this project a reality, for an organization who was recognized by American Theatre Wing, (founder of the Tony Awards), as one of the nation's ten best emerging theatres, reaching over 18,000 Arkansas students in over 70 schools, and providing programming and educational opportunities to an annual audience of over 40,000 individuals.

The City's "Fayetteville First" Economic Development Plan, adopted by the 2016 City Council, and specifically speaks to the City supporting this type of investment. In the Arts and Culture Focus area, the Plan states:

The nonprofit arts and culture sector is a significant "industry" in the Northwest Arkansas area, generating over \$45 million in total economic activity. This includes nearly \$31 million by nonprofit arts and cultural organizations and more than \$14 million in event-related spending by their audiences, supporting nearly 1,500 full-time jobs, generating nearly \$30 million in household income to local residents, and delivering \$4.0 million in local and state government revenue. The support and further enhancement of the Fayetteville arts and cultural environment is critical.

And it also specifically states:

Action Item: Support Cultural Arts District development: The Fayetteville Cultural Arts District was established by the City Council in August 2007 (Resolution No. 160-07) and encompassed cultural anchors in the downtown area such as the Walton Arts Center and the Blair Public Library as well as multiple arts galleries and the revitalized Mill District. The defining characteristic of the Cultural Arts District will include a concentration of cultural facilities and related activities, including those that support the fine arts (concert halls, theatres, and galleries) as well as libraries, historical museums and educational institutions. The district should also include restaurants, nightclubs and other forms of popular entertainment.

This city is well on the way to its new goals for entrepreneurial services as the Startup City of the South and the non-profit, 501(c)3, TheatreSquared is one of the city's original startup companies, literally a troupe of entrepreneurs who have built this theatre from concept to reality and into its next phase of success -- "scaling up," as they say in the startup culture.

As the Mayor, I fully support this endeavor, as we believe the economic and cultural impact of an expanded, unique theatre in the downtown can be a significant draw for tourism and economic development to the City, supporting restaurants, shopping and other establishments. TheatreSquared has agreed to fundraise and construct a major theatrical performance facility on the premises, including other customer convenience facilities such as a coffee shop or restaurant, retail/gift shop, and a residential facility for performing artists and related persons. TheatreSquared may also provide facilities for collaboration, community activities, educational programming, and gathering spaces. Additional details regarding the programming of the planned spaces will be described by TheatreSquared.

(Continued)

BUDGET/STAFF IMPACT:

While I wish that I had the ability to provide the entire \$7.0 Million dollar request, it is incumbent upon me to make sure that I bring forward a plan that helps us advance our goals, but that does not put the city in a position of unsustainable financial security.

We have many competing priorities, and one of those will be discussed in this very agenda – the ability to attract, retain and grow the best and brightest talent available to service our citizens. And to do so, this will be an on-going reoccurring expense that we must also plan for and be able to financially sustain. I do not want to risk using our full reserves and to leave no funding flexibility in case of uncertain financial times. We have a new Federal administration, with many changes taking place that could impact the City financially, and I must consider that as well as we move forward with this request. And additionally, there are always the unknowns. But given all these factors, I still believe that we can succeed in maintaining our fiscally conservative, balanced budget commitment while continuing to make sound investments like TheatreSquared, much like the investment we made in Kessler Mountain Regional Park and the adjacent land we were able to preserve to make our mark as a multi-state regional player.

I believe this is an important project that we should support and I recommend that we provide \$3.1 million dollars from reserves as a one-time expenditure to support and advance our economic development arts & culture plan. This \$3.1 million dollar investment along with the lease of a valuable public parking lot for the construction of this facility in Fayetteville clearly shows my commitment to TheatreSquared and their project, and to our goal of Fayetteville becoming the performing arts capital of the region.

This is an investment in our future – estimated economic impact of over \$381 Million dollars over the 50 year life of the lease. The City will be making a sound long-term investment. This investment generates \$4.9 Million in annual economic output, and over 152 new jobs in just 3 years and continuing year after year. And this project also has an immediate economic impact of 350 jobs during construction and 50.6 Million dollars of Economic Impact during construction. As Mayor I believe this is the type of return on investment we want to see and the type of investment that drives growth for our future while implementing the economic development plan we adopted.

Attachments:

Letter of Request
Economic Impact Information
Project



TheatreSquared

RECEIVED

FEB 16 2017

CITY OF FAYETTEVILLE
MAYOR'S OFFICE

TheatreSquared
PO Box 4188
Fayetteville, AR 72702
ournextstage.org

The Honorable Lioneld Jordan
City Hall, 113 W. Mountain Street
Fayetteville, AR 72701

February 15, 2017

Dear Mayor Jordan,

*"Here on this corner - here in our
community—we see a permanent
home for remarkable theatre, done
well and with passion"*

*"We see a premier national theatre
in Northwest Arkansas"*

With designs complete and a recent \$12.5 million commitment to TheatreSquared from the Walton Family Foundation to help build a permanent, premier national theatre in Northwest Arkansas, we write at a crucial moment.

We believe that Fayetteville has the opportunity to cement its future as our region's theatre district — with year-round, diverse performances fueling our downtown's economic engine and drawing hundreds of thousands of the national arts tourists who are already travelling to visit Crystal Bridges. We hope to help anchor this theatre district by building TheatreSquared's future, permanent home here in Fayetteville.

We ask for your partnership in funding this major economic development initiative and making this vision possible. The Foundation's commitment includes a \$9 million, one-to-two challenge to our community. We are seeking public funds to provide a second, equal \$9 million commitment toward this three-part challenge. We ask for your leadership and the support of the Fayetteville City Council to make a significant investment of \$7 million toward this public funding goal.

We are working to raise the third part of remaining funds from generous community supporters. In all, \$9 million in public funding will activate \$22.5 million in private funds, all raised by TheatreSquared, to bring this \$31.5 million facility to Fayetteville — which will become a publicly owned building constructed on public land. The economic impact, outlined in the following pages, will be significant and lasting. The effect on local businesses will be profound. The quality of life in our city will also rise as TheatreSquared expands programming, educational offerings, and access to community members of every background.

Timing is critical. The city's commitment will raise funding past the threshold needed to secure financing and begin work. Our construction pricing depends on breaking ground in a few months' time. With construction picking up region-wide, we've been advised that a delay would result in a significant cost increase.

With your partnership, we see the emergence of a true theatre district that defines our city as an arts destination for generations. The city's commitment is crucial to making this vision a reality. Thank you for your consideration.

Sincerely,

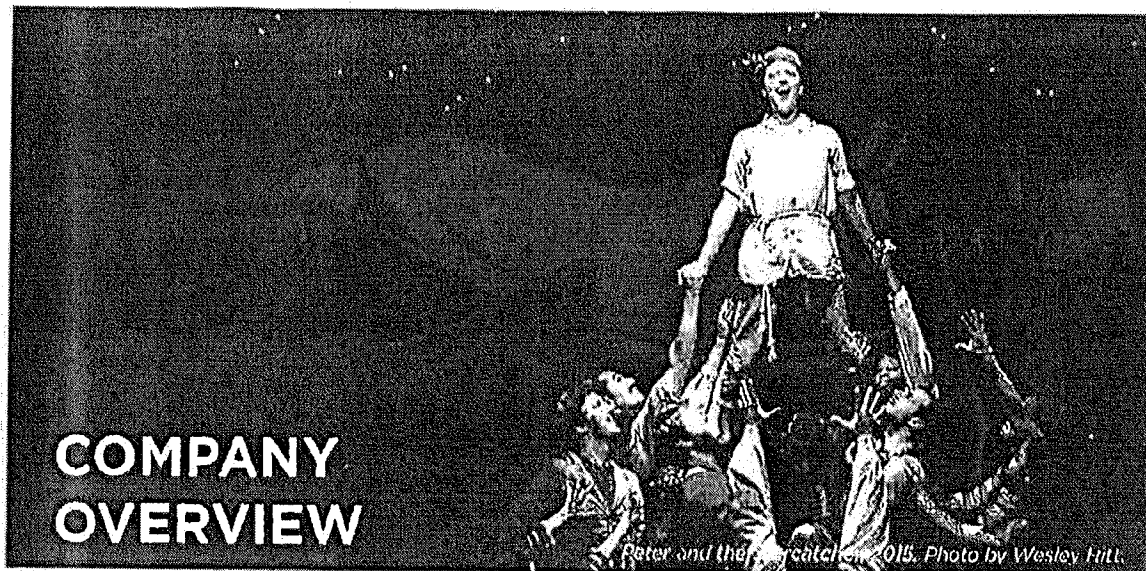


Bob Ford
Artistic Director

Martin Miller
Executive Director

Lynn Carver
Board President

Hershey Garner
Community Task Force



COMPANY OVERVIEW

A NATIONALLY RECOGNIZED PROFESSIONAL THEATRE

Founded in 2005, TheatreSquared (T2) is a professional theatre company offering live productions and educational programs for an annual audience of 40,000. The American Theatre Wing, founder of the Tony Awards, has recognized T2 as one of the nation's ten best emerging theatres, highlighting the company's success both on stage and in reaching 18,000 Arkansas students in more than 70 schools.

A UNIQUE CULTURAL ASSET AND DESTINATION

TheatreSquared fills a crucial niche as a contributor to Fayetteville's quality of life. The company's unique combination of professional theatre, locally produced, in an intimate performance space is not replicated by any amenity within 150 miles. The theatre employs paid, career professionals to create each production entirely new in downtown Fayetteville. This singular arts experience is highly valued by T2's audience — a remarkable 96% of attendees surveyed in the 2014/15 Season responded that they were likely to recommend the theatre to a friend. T2 is currently Fayetteville's #1-rated attraction on TripAdvisor, and contributes \$3.1MM in economic activity year-round to the local economy.

A COMMITMENT TO BROAD ACCESS

T2 took a major step to broaden access for community members of diverse incomes and backgrounds by launching Lights Up! for Access in 2016. Lights Up! offers free tickets to clients of regional non-profits including 7Hills Homeless Shelter, NWA Single Parent Scholarship Fund, NWA Women's Shelter, Feed Communities, Lifestyles, and Ozark Literacy Council. The program also provides \$5 tickets to any community member with a SNAP (or food stamps) benefit card, and \$10 tickets for young Arkansans. Lights Up! is already making a measurable impact on the quality of life for thousands of lower-income community members who would be otherwise unable to attend.

4100 Corporate Center Drive
Suite 205
Springdale, Arkansas 72762

The Honorable Lioneld Jordan, Mayor
City of Fayetteville
113 W. Mountain St.
Fayetteville, AR 72701

February 13, 2017

Dear Mayor Jordan,

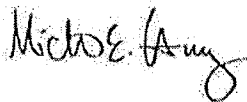
On behalf of the Northwest Arkansas Council, I write to strongly endorse TheatreSquared's request for an investment of city funding to leverage multiplied private matching dollars and construct a permanent new economic development engine for our region and state — a 50,000 square-foot cultural facility which will be home to our state's second year-round professional theatre, TheatreSquared.

This is a shovel-ready project that soundly delivers on our priorities of economic development, physical infrastructure, and workforce development. Economist Kathy Deck of the University of Arkansas Center for Business and Economic Research projects that, during construction alone, this new building will create \$50.6 million in economic output in Arkansas as well as 350 jobs. And, once the doors are open, our initial investment will continue to pay back and multiply for decades to come, starting at \$5 million in economic output during the theatre's first season and growing each subsequent year.

A top-tier regional theatre will help us attract more jobs and more 21st century businesses to our state, while enhancing quality of life to help us retain the best talent. It will also greatly advance our state's position as a destination for cultural tourism, as visitors book their hotel stays longer to see a show and spend more dollars at local businesses.

The fact that a public investment will activate a major private investment makes timely action crucial. I appreciate your support for this project and welcome any questions you may have.

Sincerely,



Michael E. Harvey
Chief Operating Officer
Northwest Arkansas Council

ECONOMIC IMPACT AND OUTPUT

I. Construction Impact

The \$31.5 million construction project to build a 50,000 square-foot theatre building in Northwest Arkansas will generate:

\$50.6 million

ECONOMIC OUTPUT IN ARKANSAS

350 jobs

FTE DIRECT, INDIRECT AND INDUCED

UA CENTER FOR BUSINESS AND ECONOMIC RESEARCH ANALYSIS

"We estimate that the total economic output from the construction activity would be \$50.6 million. The investment would generate 350.4 jobs for one year - 212.6 direct jobs, 70.5 indirect (in the supply chain) jobs, and 67.4 induced (from consumer spending) jobs. Tax revenues would be on the order of \$3.2 million."

Director Kathy Deck

II. Annual Economic Impact

ANNUAL IMPACT, 2020

\$4.9 million

2020 ECONOMIC OUTPUT

152 jobs

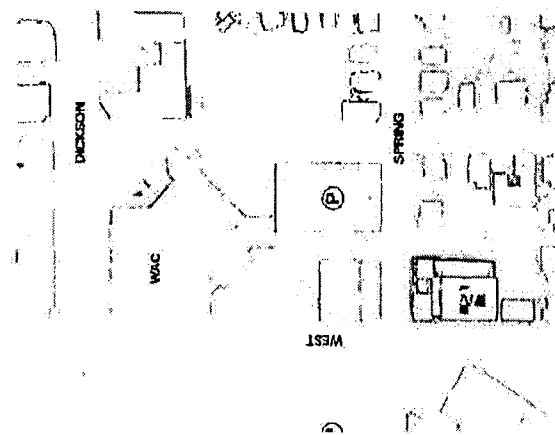
2020 FTE JOBS

50-YEAR IMPACT, 2020-2070

\$381 million

50-YEAR ECONOMIC OUTPUT

SOURCE: Arts & Economic Prosperity IV, based on the rigorous research findings from 182 study regions including Northwest Arkansas.



"**STEVE CLARK**, Fayetteville chamber president, said people from out of town might go to the venue to eat, see a show and experience the city. 'While they're sitting there, they say, 'You know, this might be a good place to live,' he said. 'So, from a Chamber of Commerce perspective, we are thrilled...'"

"**The new theater will create permanent jobs and will become a major source of revenue, pride and service to the community,**" Clark said. "I'm looking forward to being there on opening night in 2019."

NWA Democrat Gazette, Jan. 18, 2016

1/27/17

Dear Mayor Jordan,

I heard the great news last week that TheatreSquared had received \$12.5 million in grants from the Walton Family Foundation to build a 50,000 square-foot home in downtown Fayetteville, just a block from Dickson Street. I understand the grant includes a \$9 million challenge to our community.

I'm writing in strong support of your efforts to help take up this challenge and fund this project. It's vital that we keep this nationally recognized theatre in downtown Fayetteville and seize the chance to create a unique space that will draw hundreds of thousands of people to downtown Fayetteville in the next decade.

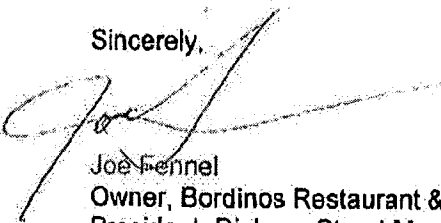
The economic development argument is strong — a \$50 million one-time impact from construction, and then \$5 million a year pumped into our local economy. Dickson Street merchants will feel the impact firsthand, as will businesses across our city.

As you know, I've been on Dickson Street since 1980, and I've seen what a difference the arts make for local businesses. The City, the University, and the Walton family made a commitment that transformed our downtown when we banded together to build the Walton Arts Center. Twenty-five years of solid growth for our downtown is compelling evidence that investing in the arts pays us back.

Our region is changing. Today, we have an opportunity to make Fayetteville and its performing arts and theatre district a year-round engine for local businesses in the downtown and Dickson Street area. Making this vision a reality will have an impact on Fayetteville and everyone who lives here. It will also make us a can't-miss destination for the hundreds of thousands of arts tourists already flocking to Crystal Bridges.

Opportunities like this are rare. I encourage you to be bold. You have my support and the support of our DSMA members. As we position ourselves for generations to come, I feel this project gives us the opportunity to create something very, very special.

Sincerely,



Joe Fennel
Owner, Bordinos Restaurant & Wine Bar
President, Dickson Street Merchants Association



THE VISION

The path to a new, permanent home for TheatreSquared began with a vision statement drafted by a group of community members and artists in March 2015:

"We see TheatreSquared as its own center, a destination and a place of origin. The work created here will draw audiences from near and far, and be our region's export to the world's theatre centers.

We see a gathering place—a theatre commons—that is welcoming and fascinating, alive with activity. A building that draws the eye and evokes curiosity.

Here on this corner —here in our community—we see a permanent home for remarkable theatre, done well and with passion. We see a premier national theatre in Northwest Arkansas."

THE TEAM

With support from the Walton Family Foundation's Design Excellence program, TheatreSquared announced the selection of a world-class design team in November 2015. London-based theatre planners Charcoalblue — who served as theatre planners for the Royal Shakespeare Company's new Courtyard Theatre, the Young Vic, two new venues at London's National Theatre, and the 2014 RIBA Sterling Award-winning Everyman Theatre, among many others — were selected to lead the design team.

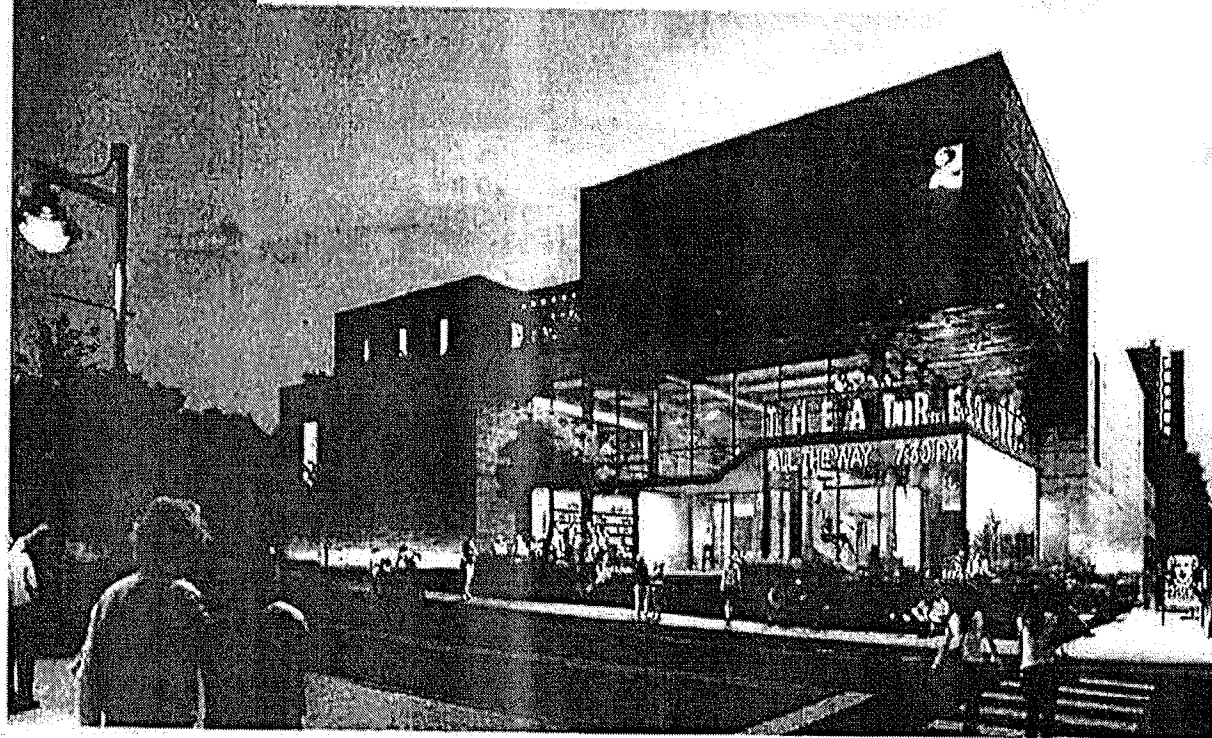
New York-based Marvel Architects was selected from over 70 international applicants to design the theatre building. Marvel's portfolio includes a new Brooklyn Public Library, the national competition-winning entry for the new Constitution Gardens on the National Mall, a master plan for Playwrights Horizons, and the beautiful new home for the storied New York theatre, St. Ann's Warehouse.

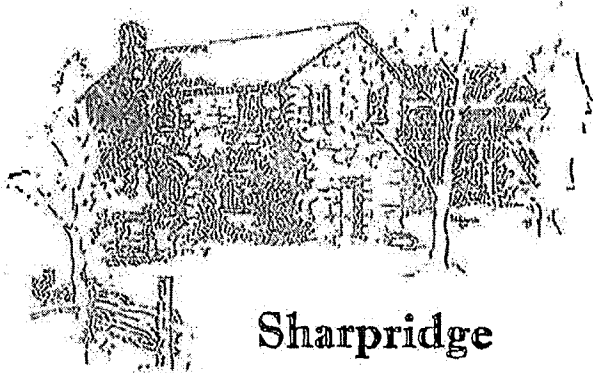


**Marvel
Architects**

CHARCOALBLUE

 **THEATRICAL | ESTD
INNOVATION | 2004**





Sharpridge

2062 S. Smokehouse Trail
Fayetteville, AR 72701-7723

(479) 267-3205

Frank Sharp - fsharp@pgtc.com
Sara Sharp - ssharp@pgtc.com

February 13, 2017

Mayor Lioneld Jordan,
City of Fayetteville
113 W. Mountain Street
Fayetteville, AR 72701

COPY

Dear Mayor Jordan,

You and the council are too young to remember, about thirty years ago the *City of Fayetteville* took a giant, courageous step in support of the arts. The City and University each put up five million dollars—that's \$9 million in today's dollars—to build an arts center. It was a huge act of faith, as our arts center committee had really done nothing but meet and plan!

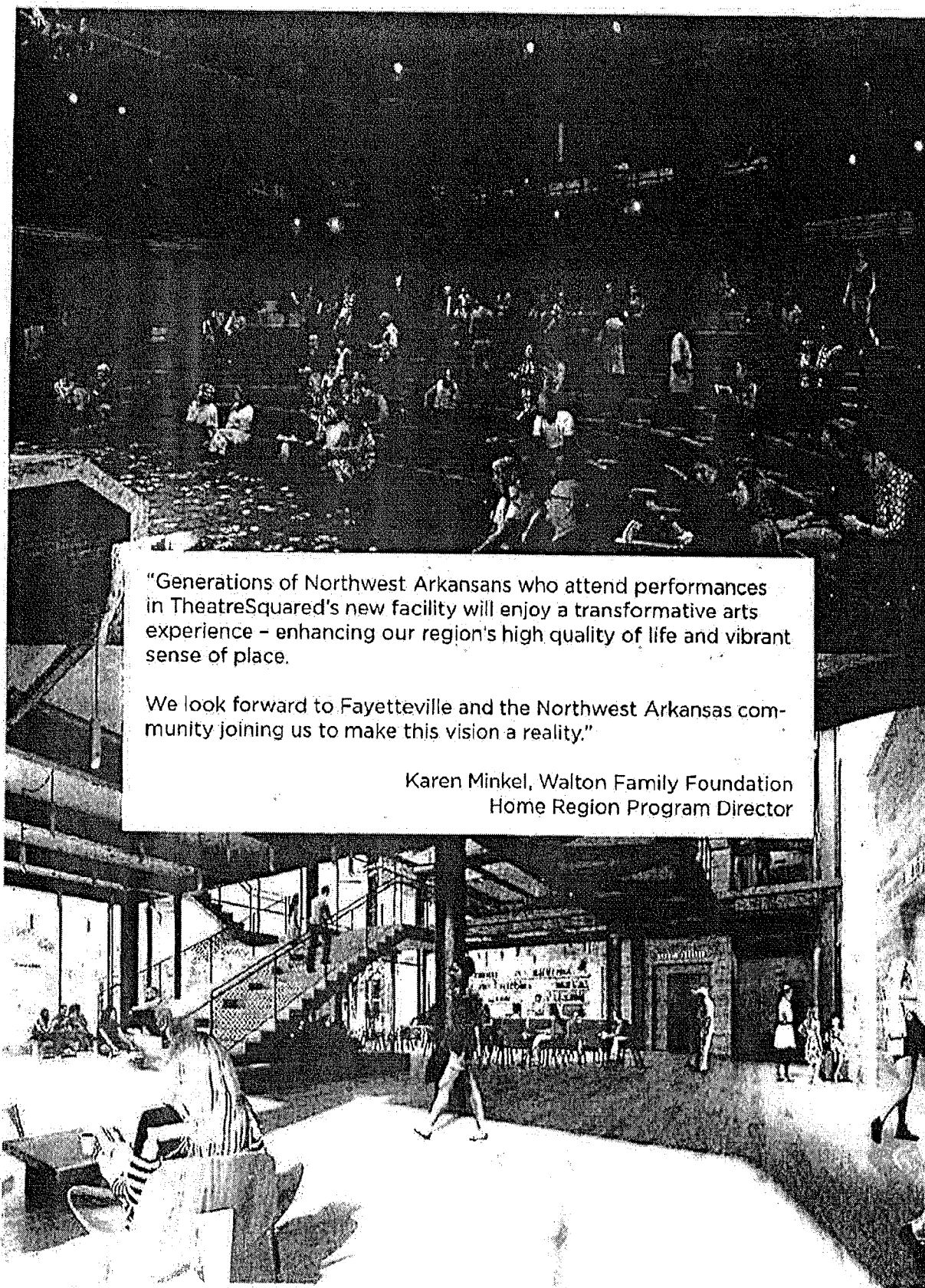
It turned out that the funding needed a third leg of a "three-legged funding stool". Generous donors - under the persuasive Billie Jo Starr- raised private money to provide that third leg of the stool. This combination of City, University and private funds made possible the creation of the *Walton Arts Center*, one of the important factors in making northwest Arkansas one of the top places in the nation to live!

The City now has another challenge in support of the arts. Unlike our committee years ago, *Theatre Squared* has proven itself with eleven successful seasons and an annual budget of two million dollars. And amazingly, this young organization has come to the city with an offer to provide two legs of a three-legged funding stool on its own — and then some.

Unfortunately, time is short! Theatre Squared needs to meet its challenge grant; to not let its construction costs balloon with a delay; and to break ground in June. I hope that you can figure out a way to give *Theatre Squared* the money it needs to construct a world-class theater and continue the terrific progress we have made here in Fayetteville in maintaining our quality of life.

Sincerely,


Frank Sharp



"Generations of Northwest Arkansans who attend performances in TheatreSquared's new facility will enjoy a transformative arts experience - enhancing our region's high quality of life and vibrant sense of place.

We look forward to Fayetteville and the Northwest Arkansas community joining us to make this vision a reality."

Karen Minkel, Walton Family Foundation
Home Region Program Director

COST-EFFICIENT, SUSTAINABLE CONSTRUCTION

Due to a highly cost-efficient design, TheatreSquared's average cost per square foot (CSF) compares favorably to the national average cost of performing arts building projects, coming in nearly 30% below industry comparables in construction cost.

\$770/sf

Average CSF of nationally benchmarked performing arts projects

Source: Dharam Cost Consulting

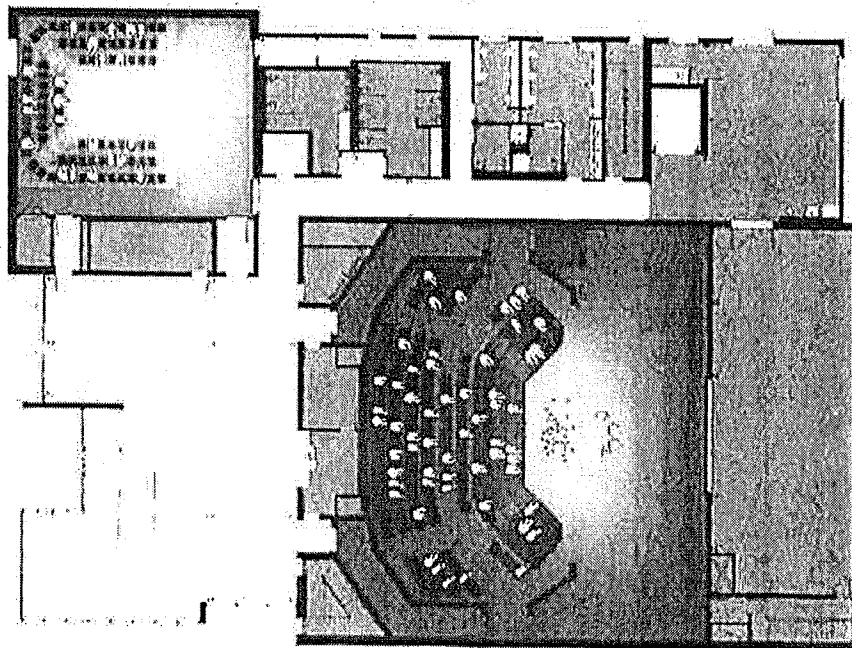
\$550/sf

TheatreSquared new building project, 100% DD Pricing

Source: Baldwin & Shell

Sustainable through-and-through, the project exceeds national standards with repurposed building materials, all-LED lights, furniture milled from trees on site, enhanced commissioning, and efficient systems. Behind the building, an artist's patio will be constructed out of reclaimed brick from a historical structure that once stood near the old Fayetteville Depot.

With high acoustic requirements and reduced glazing, the building's thermal efficiency is unusually high. Design choices have also led to sustainable construction and long-term operation, with few added ornamental finishes, very little drywall, and little need for high-VOC paints and coatings. Reducing added finishes also allows for the use of primarily local and regional materials. With these factors, along with low-flow plumbing fixtures, local species planted on grounds, re-use of concrete formwork as a construction material, and other innovations, Northwest Arkansas's new regional theatre will also be a regional model as a sustainable building project.





Office of the Chancellor

January 18, 2017

The Honorable Lioneld Jordan
City of Fayetteville
113 West Mountain Street
Fayetteville, AR 72701-6083

Dear Mayor:

As Chancellor of the University of Arkansas, I am writing to you today to express my full support behind TheatreSquared's efforts to secure funding for a future permanent home. Recognizing the tremendous benefits the new building will have on Fayetteville and Northwest Arkansas, the Walton Family Foundation has committed \$12.5 million to support its construction. I, too, believe this new venue will benefit our city and region by strengthening the tourism base, enriching culture across Arkansas, and yield economic benefits to the city and region.

Also, we want the U of A to be able to offer our current and prospective students, faculty, and staff the opportunity to attend performances in a quality setting that will enhance their cultural experiences. This new theatre space has the potential to do just that.

I look forward to our continued partnership with T2 in a new state-of-the-art facility that will help make the city and university even better!

Sincerely,

Joseph L. Steinmetz, PhD
Chancellor

c: Martin Miller



EDUCATION & ACCESS

TheatreSquared's education programs already serve 18,000 students each year — but the theatre lacks any dedicated space for its education programs in Fayetteville, and so all of its workshops and performances must be conducted in makeshift spaces within schools (and often outside of Fayetteville). The new facility will allow the theatre to host far more of its educational programs in downtown Fayetteville.

The theatre's tickets for its mainstage performances are more accessible than ever, with free tickets for low-income clients of community organizations, \$5 tickets for SNAP (or food stamps) benefit recipients, as well as \$10 tickets for young Arkansans. The broad use of these access programs is currently limited, however, by the capacity of the theatre's current venue and by third-party ticket fees added to low-cost tickets. These constraints will be erased in the new facility.

In the new theatre center, always-open public gathering and meeting spaces will be a year-round resource for the community, supporting access and creating a sense of true public ownership.

CONCLUSION

We believe that theatre, done well and with passion, can transform lives and communities. This significant initiative will be transformative for Fayetteville. Your support will help us cement Fayetteville's role as our region's theatre district, will help unify Dickson Street, the Library, and the Square as part of one "supremely walkable" arts district (Fayetteville Downtown Master Plan), and will raise the quality of life for citizens of Fayetteville for decades to come. We appreciate your consideration of this proposal and look forward to a continuing conversation.

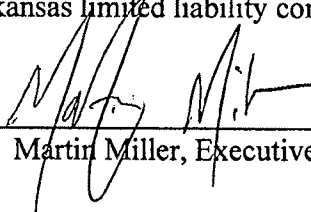
Res 68-17

**CERTIFICATE OF
FUNDING**

Theatre Squared, Inc., an Arkansas nonprofit corporation ("Company"), does hereby certify to the City of Fayetteville, Arkansas ("City"), that Company has in hand, either in the form of cash, lines of credit or pledges, a majority of the funding needed for Company to construct a theatrical performance facility on the land leased by Company from City.

IN WITNESS WHEREOF, this Certificate of Funding is executed by Company on this 31 day of May, 2017.

THEATRE SQUARED, INC.,
an Arkansas limited liability company

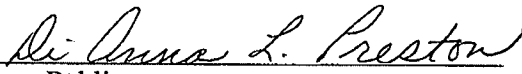
By: 
Martin Miller, Executive Director

STATE OF ARKANSAS)
)ss.
COUNTY OF WASHINGTON)

ACKNOWLEDGMENT

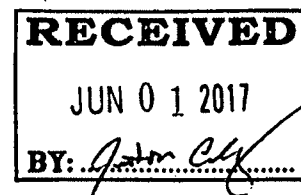
On this day, before me, a Notary Public, duly commissioned, qualified and acting, with and for said County and State, appeared in person the within named **Martin Miller**, to me well known, who stated he was the Executive Director of **Theatre Squared, Inc.**, an Arkansas limited liability company, and was duly authorized in such capacity to execute the foregoing instrument for and in the name and on behalf of the company, and further stated and acknowledged he had so signed, executed and delivered the foregoing instrument for the consideration, uses and purposes therein mentioned and set forth.

IN TESTIMONY WHEREOF, I have hereunto set my hand and official seal this 31 day of May, 2017.


Notary Public

My commission expires:

2-28-22
(SEAL)



CONTRACT

This contract is entered into and agreed to by and between the City of Fayetteville and Theatre Squared, Inc., an Arkansas corporation upon this contract's execution by both parties.

WHEREAS, on June 7, 2016, Resolution No. 121-16 was passed by the City Council which authorized Mayor Jordan to sign the Lease Agreement to lease the Spring Street parking lot to Theatre Squared, Inc. Mayor Jordan signed this lease on June 9, 2016 to be effective upon the approval of Theatre Squared, Inc.'s large scale development and its certification to the City that Theatre Squared, Inc. "has the finances in hand or properly pledged to the City's satisfaction to construct a substantial (majority) portion of its project."; and

WHEREAS, pursuant to Resolution No. 68-17 passed by the Fayetteville City Council on March 7, 2017, the City approved "a budget adjustment of Three Million One Hundred Thousand Dollars (\$3,100,000.00) to enable Mayor Jordan to pledge and then invest that amount into the (City-owned) Theatre Squared, Inc.'s proposed theater project pursuant to a proper agreement"; and

WHEREAS, Theatre Squared, Inc. desires to raise sufficient resources to construct its proposed theater project upon the City's property leased to Theatre Squared, Inc. and operate its theater to bring additional customers into Fayetteville's Entertainment District and provide them with excellent theatrical performances; and

WHEREAS, the City of Fayetteville and Theatre Squared, Inc. desire to enter into this contract to authorize the City of Fayetteville to invest up to Three Million One Hundred Thousand Dollars (\$3,100,000.00) into Theatre Squared, Inc.'s proposed theater project (hereinafter, "theater project") to be constructed on City property leased to Theatre Squared, Inc.

IN CONSIDERATION OF AND IN AGREEMENT WITH THE TERMS, CONDITIONS, PROMISES, COVENANTS AND OBLIGATIONS within this agreement and the Lease Agreement, the City of Fayetteville and Theatre Squared, Inc. promise and covenant as follows:

1. Theatre Squared, Inc. promises to raise in cash, loans and/or financial commitments acceptable to the City of Fayetteville sufficient funds to complete the construction of its proposed theater project as presented to the Fayetteville City Council and approved by the Fayetteville Planning Commission. The acceptability of any and all financial commitments and the sufficiency of approved funds to complete the theater project shall be within the sole discretion of the City.

2. The City of Fayetteville shall express its acceptance of the funding obtained by Theatre Squared, Inc. as sufficient (with the addition of the City's investment) to fully construct the theater project and thus justify the investment of the City's Three Million One Hundred Thousand Dollars (\$3,100,000.00) to help complete the theater project by the passage of a City Council Resolution to that effect and the Resolution's approval by Mayor Jordan.

3. Theatre Squared, Inc. shall properly bid in accordance with state purchasing laws and City of Fayetteville requirements at least such portions of the project (as agreed by both parties) which may then be authorized for payment by tax dollars.

4. Upon passage of the Resolution referred to in paragraph 2 and the proper bidding referred to in paragraph 3, the City of Fayetteville will then promise to pay the amount of the lowest responsive, qualified and responsible bidder for those agreed to portions of the construction contract to Theatre Squared, Inc. for the sole use to pay such approved contracts until the City has invested the Three Million One Hundred Thousand Dollars (\$3,100,000.00) previously agreed upon. Theatre Squared, Inc. promises to use these City funds solely and exclusively to pay the agreed upon qualified contracts. It is anticipated that at least one of these contracts will have to be funded both by the City and Theatre Squared to enable the City to invest its full \$3.1 Million into this project.

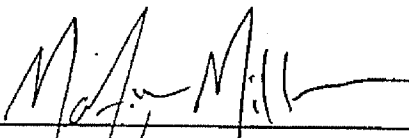
5. Theatre Squared, Inc. promises that it will timely complete the theater project as presented and described to the Fayetteville City Council and approved by the Planning Commission and agrees that it has the exclusive obligation to satisfactorily perform and accomplish (possibly through its architect, general contractor or contract manager) the following duties and responsibilities related to the design, construction and completion of its theater project on the corner of West Avenue and Spring Street:

- a. Complete and adequate architectural and engineering design of the overall project, building, and each component therein;
- b. Preparation of adequate bidding contracts and proper specifications of all components and materials to be used in the project;
- c. Proper legal selection of the of the lowest qualified bidder for any portion of the project in which funds from the City of Fayetteville shall be invested;
- d. Geotechnical and soils testing necessary to ensure a proper, stable, adequate and secure foundation for the project;
- e. Testing and inspection of all materials to be used in the project;
- f. Testing and inspection of the installation or use of all such construction materials to ensure compliance with the contract and proper construction techniques;
- g. Complete and proper compliance with all requirements of the large-scale development approved by the Fayetteville Planning Commission;
- h. Complete and proper compliance with all applicable provisions of the Unified Development Code and obtaining the appropriate Certificate of Occupancy from the City;
- i. Proper and complete payment of all contractors, subcontractors, materials suppliers and professional service providers;
- j. Resolution, settlement and/or payment of all legitimate claims related to the construction of the theater project;

- k. Prompt and full payment of all applicable taxes (including assessed millage taxes) on the property, building, furnishings and equipment therein.
6. Theatre Squared, Inc. agrees that the City of Fayetteville has no responsibility or liability for any of the obligations listed in paragraph 5 and that the City of Fayetteville's sole responsibility is to invest its Three Million One Hundred Thousand Dollars (\$3,100,000.00) pursuant to paragraph 4 of this contract.
7. Theatre Squared, Inc. agrees to indemnify and hold harmless the City of Fayetteville, its officers and employees from any and all claims, demands, liabilities, and costs including attorney fees related to the design and/or construction of the theater project.
8. Theatre Squared, Inc. agrees that all the terms, conditions and promises contained within the Lease Agreement with the City of Fayetteville executed on or about June 9, 2016, for the premises upon which this theater project will be built are also specifically agreed to by Theatre Squared, Inc. and will be fully and properly performed as an additional major consideration provided to the City of Fayetteville for the City's \$3.1 Million investment into this theater project.
9. Theatre Squared, Inc. expressly acknowledges and agrees that at the end of its leasehold the building, fixtures and all other improvements shall revert to the full occupation, control and ownership of the City of Fayetteville without the payment of any consideration to Theatre Squared, Inc.
10. Theatre Squared, Inc. agrees to fully and timely pay any secured indebtedness on its theater project and prevent any foreclosure of any such mortgage or other indebtedness secured by the project or the premises upon which the theater project will be constructed.
11. Theatre Squared, Inc. agrees to fully and promptly comply with the Arkansas Freedom of Information Act and acknowledges that its documents, reports, statements, etc. relating to the use of the City's

In agreement with all the terms, conditions, promises and agreements previously stated, we sign our names below and expressly covenant that we are legally empowered to bind the entity for which we sign.

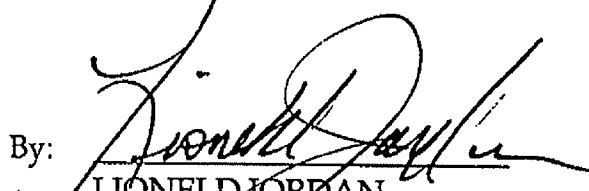
THEATRESQUARED, INC.

By: 
Martha Miller
Printed name

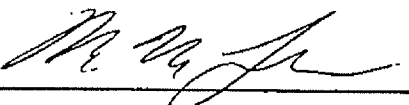
Title: Executive Director

Date: June 27, 2017

CITY OF FAYETTEVILLE

By: 
LIONEL JORDAN
Mayor

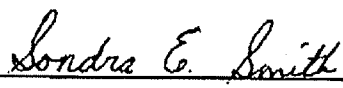
WITNESS:

By: 
Rhonda M. Lynch
Printed name

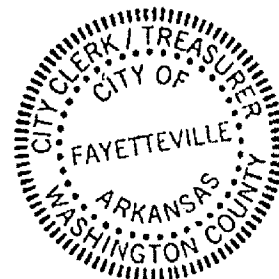
Title: Paralegal, COF

Date: June 27, 2017

ATTEST:


City Clerk

Date: June 28, 2017





City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2017-0661

Agenda Date: 12/5/2017

Version: 1

Status: Agenda Ready

In Control: City Council Meeting

File Type: Ordinance

Agenda Number: C. 3

AREA AGENCY ON AGING OF NORTHWEST ARKANSAS:

AN ORDINANCE TO WAIVE THE REQUIREMENTS OF FORMAL COMPETITIVE BIDDING AND APPROVE A CONTRACT BETWEEN THE CITY OF FAYETTEVILLE, ARKANSAS AND THE AREA AGENCY ON AGING OF NORTHWEST ARKANSAS IN THE AMOUNT OF \$98,887.00 TO PROVIDE PUBLIC RECREATION SERVICES FOR THE SENIOR CITIZENS OF FAYETTEVILLE FOR 2018, CONTINGENT ON APPROVAL OF THE 2018 ANNUAL CITY BUDGET AND WORK PROGRAM

WHEREAS, providing quality recreational opportunities to the senior citizens of our community is of mutual interest to the City of Fayetteville and the Area Agency On Aging of Northwest Arkansas, which has provided these services to seniors in Fayetteville and Northwest Arkansas for the past 45 years and;

WHEREAS, the Area Agency on Aging is very qualified and uniquely able to provide the continuity of services vital to the efficient provision of recreational opportunities to the senior citizens of Fayetteville.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1. That the City Council of the City of Fayetteville, Arkansas hereby finds the above circumstances make competitive bidding not feasible or practical and therefore waives the requirements of formal competitive bidding and approves a contract between the City of Fayetteville, Arkansas and the Area Agency on Aging of Northwest Arkansas in the amount of \$98,887.00 to provide public recreation services for the senior citizens of Fayetteville for 2018, contingent on approval of the 2018 Annual City Budget and Work Program.

City of Fayetteville Staff Review Form

2017-0661

Legistar File ID

12/5/2017

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Connie Edmonston

11/14/2017

PARKS & RECREATION (520)

Submitted By

Submitted Date

Division / Department

Action Recommendation:

Approval of an ordinance waiving the requirements of formal competitive bidding and approving a contract between the City of Fayetteville and the Area Agency on Aging of Northwest Arkansas in the amount of \$98,887.00 to provide public recreation services for senior citizens of Fayetteville for 2018, contingent on approval of the 2018 annual city budget and work program.

Budget Impact:

1010.090.6600.5718.01

General

Account Number

Fund

40901-4004

Transfer to Council on Aging

Project Number

Project Title

Budgeted Item? Yes

Current Budget \$ 98,887.00

Funds Obligated \$ -

Current Balance \$ 98,887.00

Does item have a cost? Yes

Item Cost

Budget Adjustment Attached? No

Budget Adjustment

Remaining Budget \$ 98,887.00

V20140710

Previous Ordinance or Resolution # 2016-0549

Original Contract Number:

Approval Date:

Comments: Pending on approval of the 2018 annual city budget and work program.



MEETING OF DECEMBER 5, 2017

TO: Mayor and City Council

THRU: Don Marr, Chief of Staff

FROM: Connie Edmonston, Parks and Recreation Director

DATE: November 14, 2017

SUBJECT: Area Agency on Aging of Northwest Arkansas Recreation Contract for 2018

RECOMMENDATION:

Approval of an ordinance waiving the requirements of formal competitive bidding and approving a contract between the City of Fayetteville and the Area Agency on Aging of Northwest Arkansas in the amount of \$98,887 to provide public recreation services for senior citizens of Fayetteville for 2018, contingent on approval of the 2018 annual city budget and work program.

BACKGROUND:

The City of Fayetteville began providing financial support for the Council on Aging, Inc. in 1972 for recreation services to senior citizens at the Hillcrest Towers. In 2003, the Walker Park Senior Activity and Wellness Center was added to the contract when it was built. This has been a very successful agreement that continued with the Northwest Arkansas Economic Development District providing services until April 1, 2014 when the contract reverted back to the Area Agency on Aging (AAA). AAA has the current building lease for the Walker Park Senior Activity and Wellness Center.

AAA provides recreational programs meeting the needs of our senior citizen residents at Walker Park's Senior Activity and Wellness Center and Hillcrest Towers. It is the intent of AAA and the Fayetteville Parks and Recreation Department to work in cooperation to enhance the recreation facilities and programs in our City, while not duplicating services in an effort to spend taxpayers' money as effectively as possible. If the AAA were not serving our senior citizen population, the City would need to assume responsibility.

DISCUSSION:

The 2018 budget includes a total of \$98,887 to be transferred to the AAA from the General Fund. A resolution of contractual services, as well as an ordinance to waive competitive bidding, is required. The contract outlines the services the AAA is providing to the City and the citizens of Fayetteville. A waiver of competitive bids is requested to secure the continuity of services provided and because AAA has adequately served our citizens for the past 46 years including when they subcontracted services with the Northwest Arkansas Economic Development District. The agreement for 2018 is the same as the contract approved in 2017. Walker Park's Senior

Activity and Wellness Center's building is designated as an emergency shelter for the City of Fayetteville due to their location and facility available to assist in housing citizens.

BUDGET/STAFF IMPACT:

The 2018 budget includes a total of \$98,887 for this request. Funding is the same as provided in 2017. The request is contingent upon City Council approval of the 2018 proposed budget

Attachments:

Staff Review Form
Signed Contract
Proposed Ordinance

CONTRACT

*Between The City of Fayetteville and the
Area Agency on Aging of Northwest Arkansas (AAA)*

WHEREAS, the Area Agency on Aging of Northwest Arkansas (AAA) is uniquely qualified to provide the full range of public recreation opportunities to the senior citizens of Fayetteville; and,

WHEREAS, it is in the best interest of the City of Fayetteville and its citizens to provide operating revenues to the AAA in consideration for the substantial recreational programs provided by the AAA to the senior citizens of Fayetteville.

NOW, THEREFORE, IT IS AGREED:

The City of Fayetteville shall provide the sum of \$8,240.58 monthly to the AAA from January 1 until December 31, 2018 in consideration of the following duties and obligations to be performed by the AAA:

- A. The AAA shall be responsible for providing staff, programming, promotion, and development for Walker Park's Fayetteville Senior Activity and Wellness Center and Hillcrest Towers Community Center. AAA agrees to use funding from the City to pay for recreational programs designed specifically for senior citizens.
- B. AAA shall make substantial portions of its programs or facilities available to Fayetteville citizens (the public) at little or no cost for the needy senior citizens. AAA shall report on a quarterly basis the approximate number of Fayetteville citizens served by its programs.
- C. AAA shall provide Walker Park's Fayetteville Senior Activity and Wellness Center as an emergency shelter when deemed necessary by the City of Fayetteville.
- D. The AAA shall follow the general Working Procedures and Responsibilities for the City of Fayetteville Parks and Recreation Division and the AAA which is attached as Exhibit A, and is made a part hereof, as if set forth word for word in its entirety.

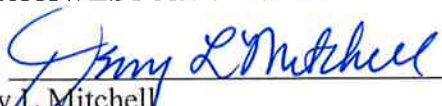
CITY OF FAYETTEVILLE

BY: _____

LIONELD JORDAN, Mayor

AREA AGENCY ON AGING OF
NORTHWEST ARKANSAS

BY: _____


Jerry L. Mitchell
Executive Director

ATTEST:

BY: _____

Sondra E. Smith, City Clerk / Treasurer

EXHIBIT A

RECREATION IN FAYETTEVILLE

WORKING PROCEDURES AND RESPONSIBILITIES FOR THE CITY OF FAYETTEVILLE PARKS AND RECREATION DIVISION AND THE AREA AGENCY ON AGING OF NORTHWEST ARKANSAS

This agreement is made and entered into between the City of Fayetteville Parks and Recreation Department (Parks and Recreation) and the Area Agency on Aging of Northwest Arkansas (hereinafter referred to as AAA).

WHEREAS, the parties are two of the providers of recreational programs for the citizens of Fayetteville and wish to define a working agreement which may be revised and modified each year upon mutual agreement between the Parks and Recreation Director and the Executive Director of the AAA; and,

WHEREAS, it is the goal of both parties to work in cooperation to enhance the recreation facilities and programs offered by the parties and to act together in meeting the needs of the citizens of Fayetteville; and,

WHEREAS, Walker Park's Fayetteville Senior Activity and Wellness Center has been designated as an emergency shelter for the City of Fayetteville due to the location and facility available to house citizens; and

WHEREAS, increased communications and a new set of operating procedures will assist with the working relationship and will benefit both agencies and their operations; and,

WHEREAS, Parks and Recreation believes the goals of Parks and Recreation and AAA would best be accomplished by defining and streamlining responsibilities and procedures; and, is therefore recommending the merging of facility and program management for all recreation offerings, thereby providing administrative accountability for all services provided to the citizens.

NOW, THEREFORE, in order to define and improve the current working relationship between Parks and Recreation and AAA, the following set of detailed operating procedures and responsibilities are hereby established.

1. AAA shall be responsible for providing staffing, programming and promotion, and development of recreational programs for senior citizens including but not limited to, health and fitness activities, recreational trips, arts and crafts, music and games.
2. There will be no delays or decrease in public recreational services provided to senior citizens due to the change in contractor.
3. Parks and Recreation shall be responsible for providing or approving the staffing, programming, maintenance, promotion and development of the parks

system within the city and the recreational events occurring within the city for all ages.

4. The AAA Executive Director and Parks and Recreation Director shall have periodic meetings to ensure communication between the two entities.
5. It is understood and agreed that the City's annual purchase of services will be negotiated on a yearly basis.
6. The AAA is responsible for the management and operation of annual funding allocation to AAA from the City of Fayetteville and shall have the responsibility for prioritizing the use of such funds.
7. The Fayetteville Senior Activity and Wellness Center Director and Parks and Recreation Director will work jointly in opening Walker Park's Fayetteville Senior Activity and Wellness Center as an emergency shelter as deemed necessary by the City of Fayetteville. AAA will utilize funds appropriated by the City of Fayetteville for operational costs as necessary for the emergency shelter.
8. AAA shall schedule a meeting and submit an annual financial report to the Parks and Recreation Director no more than sixty (60) days after the end of the AAA fiscal year, which ends on June 30, 2018. Such report shall detail AAA's use of the City of Fayetteville's funding allocation and accomplishment of performance measures as stated below in number 10.
9. AAA shall comply with the schedules and procedures established by the Budget and Research Division of the City of Fayetteville for annual funding requests.
10. Quarterly reports shall be submitted to the Parks and Recreation Director on, or before, the following dates: April 15, July 15, October 15, and January 15 (2019). These reports shall detail the following performance measures:
 - A. Operation of a full service senior center at Walker Park's Fayetteville Senior Activity and Wellness Center and Hillcrest Towers locations to include socialization (recreation) by hosting daily social activities such as bingo, table games, exercise classes, and wellness programs. During the course of the year, an estimated 700 elderly citizens will participate at the two locations.
 - B. Recreation opportunities at the Walker Park location will continue to provide such wellness recreational activities as Tai Chi. Formal exercise classes and Use It or Lose It classes will be provided on a weekly basis. L.I.F.T Classes will be provided on a bi-weekly basis. Dances and music activities will be provided weekly at the Walker Park location.
 - C. Walker Park's Fayetteville Senior Activity and Wellness Center and Hillcrest Tower locations will seek partnerships with outside

organizations or community groups to assist in a variety of recreation programs and wellness classes.

D. Transportation will be provided at both the Walker Park's Fayetteville Senior Activity and Wellness Center and Hillcrest Towers for recreational trips and special interest trips, as well as transporting seniors for necessary appointments as scheduled through the Fayetteville Senior Activity and Wellness Center.

E. AAA shall acknowledge the City of Fayetteville's contribution on general marketing flyers, brochures and other general marketing materials.

11. The working procedures and responsibilities contained herein must continue without delays in service and shall become effective January 1, 2018.

CITY OF FAYETTEVILLE

BY: _____
LIONELD JORDAN, Mayor

Attest:

BY: _____
Sondra E. Smith, City Clerk / Treasurer

AREA AGENCY ON AGING OF
NORTHWEST ARKANSAS

BY: 
Jerry L. Mitchell
Executive Director

Attest:

BY: 



City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2017-0659

Agenda Date: 12/5/2017

Version: 1

Status: Agenda Ready

In Control: City Council Meeting

File Type: Ordinance

Agenda Number: C. 4

FAYETTEVILLE YOUTH CENTER, INC.:

AN ORDINANCE TO WAIVE THE REQUIREMENTS OF FORMAL COMPETITIVE BIDDING AND APPROVE A CONTRACT BETWEEN THE CITY OF FAYETTEVILLE, ARKANSAS AND FAYETTEVILLE YOUTH CENTER, INC. IN THE AMOUNT OF \$225,000.00 TO PROVIDE PUBLIC RECREATION SERVICES FOR THE YOUTH AND CITIZENS OF FAYETTEVILLE FOR 2018 CONTINGENT UPON APPROVAL OF THE 2018 CITY BUDGET

WHEREAS, providing quality recreational opportunities to the youth and citizens of our community is of mutual interest to the City of Fayetteville and Fayetteville Youth Center, Inc.; and

WHEREAS, Fayetteville Youth Center, Inc. and the City of Fayetteville have had a close working relationship for many years and this relationship allows for a continuity of services vital to the efficient provision of recreational opportunities, and;

WHEREAS, were it not for the services offered by Fayetteville Youth Center, Inc., the City of Fayetteville would be required to assume the duty of providing staff, programming, promotion and development for youth recreational services.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1. That the City Council of the City of Fayetteville, Arkansas hereby determines an exceptional situation exists in which competitive bidding is deemed not feasible or practical and therefore waives the requirements of formal competitive bidding and approves a contract between the City of Fayetteville, Arkansas and Fayetteville Youth Center, Inc. in the amount of \$225,000.00 to provide public recreation services for the youth and citizens of Fayetteville for 2018 contingent upon approval of the 2018 Annual City Budget and Work Program.

City of Fayetteville Staff Review Form

2017-0659

Legistar File ID

12/5/2017

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Connie Edmonston

11/13/2017

Parks & Recreation /
Parks & Recreation Department

Submitted By

Submitted Date

Division / Department

Action Recommendation:

Approval of an ordinance waiving the requirements of formal competitive bidding and approving a contract between the City and Fayetteville and the Fayetteville Youth Center, Inc. in the amount of \$225,000 to provide public recreation services for the youth and citizens of Fayetteville for 2018, contingent on approval of the 2018 annual city budget and work program.

Budget Impact:

1010.090.6600.5718.00

General

Account Number

Fund

40901-4002

Transfer to Boys and Girls Club

Project Number

Project Title

Budgeted Item? Yes

Current Budget \$ 225,000.00

Funds Obligated \$ -

Current Balance \$ 225,000.00

Does item have a cost? Yes

Item Cost \$ 225,000.00

Budget Adjustment Attached? No

Budget Adjustment

Remaining Budget \$ -

V20140710

Previous Ordinance or Resolution # 5931

Original Contract Number:

Approval Date:

Comments: Pending on City Council approval of the 2018 Proposed Budget.



MEETING OF DECEMBER 5, 2017

TO: Mayor and City Council

THRU: Don Marr, Chief of Staff

FROM: Connie Edmonston, Parks & Recreation Director

DATE: November 13, 2017

SUBJECT: Fayetteville Boys and Girls Club Recreation Contract for 2018

RECOMMENDATION:

Approval of an ordinance waiving the requirements of formal competitive bidding and approving a contract between the City and Fayetteville and the Fayetteville Youth Center, Inc. in the amount of \$225,000 to provide public recreation services for the youth and citizens of Fayetteville for 2018, contingent on approval of the 2018 annual city budget and work program.

BACKGROUND:

The 2018 budget includes a total of \$225,000 to be transferred to the Fayetteville Youth Center, Inc. from the General Fund. A resolution of contractual services, as well as an ordinance to waive competitive bidding is required. The contract outlines the services the Fayetteville Youth Center is providing to the City and the citizens of Fayetteville. Please note the Fayetteville Youth Center refers to the operations of the Fayetteville Boys and Girls Club throughout this contractual agreement. A waiver of competitive bids is being requested to secure the continuity of services provided and because the Fayetteville Youth Center has effectively served our citizens for the past 50 years.

DISCUSSION:

The City of Fayetteville has provided financial support for the Fayetteville Youth Center since 1967. Each year, the Parks and Recreation Director and Boys and Girls Club Executive Director evaluate operations to determine if the needs of the citizens of Fayetteville are being met in the most efficient possible manner. The attached "Working Agreement" helps avoid duplication or competition of programs between the two organizations. It is the intent of both agencies to work together for the common good of the citizens by not providing public funding for multiple competing program offerings. If the Boys and Girls Club was not providing recreational services for our youth as well as citizens, the City of Fayetteville would need to assume the responsibility.

The agreement for 2018 is similar to the 2017 agreement with an update of the programs offered. The Boys and Girls Club provides transportation for children at the YRCC to the free lunch program and the Club during summer months with no admittance fee. The Club also provides transportation for various after school programs for YRCC participants as well as bus

transportation for shuttling purposes for participants in running and biking special events offered by the Parks and Recreation Department at least two times a year. The Fayetteville Boys and Girls Club building is designated as an emergency shelter for the City of Fayetteville due to the location and facility available to house citizens. The Boys and Girls Club was utilized as an emergency shelter in the April flood this year. The City appreciates the exceptional service they provided for our citizens during this emergency event.

BUDGET/STAFF IMPACT:

The 2018 budget includes a total of \$225,000 for this request. Funding is the same as provided in 2016. The request is contingent upon City Council approval of the 2018 proposed budget

Attachments:

Staff Review Form
Signed Contract
Proposed Ordinance

CONTRACT

***Between The City of Fayetteville
And
Fayetteville Youth Center, Inc.***

WHEREAS, the City of Fayetteville has long been associated with and worked with the Fayetteville Youth Center, Inc. to provide public recreation to the citizens of Fayetteville; and

WHEREAS, the Fayetteville Youth Center, Inc. has long provided public recreation to the youth and citizens of Fayetteville; and

WHEREAS, it remains in the best interest of the City of Fayetteville and its citizens to provide operating revenues to the Fayetteville Youth Center, Inc. in consideration for the substantial recreational programs provided by the Fayetteville Youth Center, Inc. to the youth and citizens of Fayetteville.

NOW, THEREFORE, IT IS AGREED:

The City of Fayetteville shall provide the sum of \$18,750 monthly to the Fayetteville Youth Center, Inc. throughout the year of 2018 in consideration of the following duties and obligations to be performed by the Fayetteville Youth Center, Inc.:

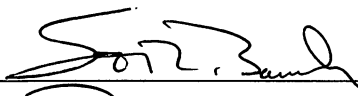
- A. The Fayetteville Youth Center, Inc. shall be jointly responsible with the Fayetteville School System to provide staffing, programming, maintenance, promotion and development for the following facilities: Asbell Gymnasium, Holcomb Gymnasium, Vandergriff Gymnasium and the main facility of the Boys and Girls Club on Ruppel Road. The Fayetteville Youth Center, Inc. agrees to use funding from the City to pay for gymnasium supervisors and custodians at these sites.
- B. The Fayetteville Youth Center, Inc. shall make a substantial portion of its programs or facilities available to Fayetteville citizens (the public) at little or no cost for needy youth. Although basic membership fees may be required for many Fayetteville residents, needy youth wishing to participate at the Fayetteville Youth Center, Inc. facility shall not be denied access solely because they do not have sufficient funds to pay for a regular membership. The Fayetteville Youth Center, Inc. shall report on a quarterly basis the approximate number of Fayetteville Citizens served by its programs and shall include the number of "scholarships" or free memberships provided to Fayetteville citizens.
- C. The Fayetteville Youth Center, Inc. shall provide their facility as an emergency shelter when deemed necessary by the City of Fayetteville.
- D. The Fayetteville Youth Center, Inc. shall continue to follow the general Working Procedures and Responsibilities for the City of Fayetteville Parks

and Recreation Division and The Fayetteville Youth Center, Inc. which is attached as Exhibit A, and made a part hereof.

CITY OF FAYETTEVILLE

BY: _____
LIONELD JORDAN, Mayor

FAYETTEVILLE YOUTH CENTER, INC.

BY: _____

President

Title

ATTEST:

BY: _____
Sondra E. Smith, City Clerk / Treasurer

EXHIBIT A

RECREATION IN FAYETTEVILLE

WORKING PROCEDURES AND RESPONSIBILITIES FOR THE CITY OF FAYETTEVILLE PARKS AND RECREATION DIVISION AND THE FAYETTEVILLE YOUTH CENTER, INC.

This agreement is made and entered into between the City of Fayetteville Parks and Recreation Department (Parks and Recreation) and the Fayetteville Youth Center, Inc., d/b/a Donald W. Reynolds Boys & Girls Club (hereinafter FYC).

WHEREAS, the parties are two of the providers of recreational programs for the citizens of Fayetteville and wish to define a working agreement which may be revised and modified each year upon mutual agreement between the Director of Parks and Recreation and the Executive Director of the FYC; and,

WHEREAS, it is the goal of both parties to work in cooperation to enhance the recreation facilities and programs offered by the parties and to act together in meeting the needs of the citizens of Fayetteville; and,

WHEREAS, the FYC facility located on Ruppel Road has been designated as an emergency shelter for the City of Fayetteville due to the location and facility available to house citizens; and

WHEREAS, increased communication and a new set of operating procedures will assist with the working relationship and will benefit both agencies and their operations; and,

WHEREAS, Parks and Recreation believes the goals of Parks and Recreation and FYC would best be accomplished by defining and streamlining responsibilities and procedures; and, is therefore recommending the merging of facility and program management for all recreation offerings, thereby providing administrative accountability for all services provided to the citizens.

NOW, THEREFORE, in order to define and improve the current working relationship between Parks and Recreation and FYC, the following set of detailed operating procedures and responsibilities are hereby established.

1. FYC shall be responsible for working with the Fayetteville School System to provide staffing, programming, maintenance, promotion and development for the following facilities: Asbell Gymnasium, Holcomb Gymnasium, Vandergriff Gymnasium and the Boys and Girls Club. FYC will be responsible for the hiring, evaluating, and supervising of gymnasium supervisors and at Holcomb, Asbell, and Vandergriff Gymnasiums during the basketball seasons, after school programs and summer day camp programs.
2. Parks and Recreation shall be responsible for providing or approving the staffing, programming, maintenance, promotion and development for the city

parks, including the following facilities which are utilized for sport programming; Lake Fayetteville Softball Complex, Gary Hampton Softball Complex, , Walker Baseball/Soccer Complex, White River Baseball Complex, Wilson Park Softball Field, and Kessler Mountain Regional Park. Parks and Recreation shall be responsible for outdoor facilities owned or leased by the City of Fayetteville, excluding the property leased to FYC pursuant to written agreements.

3. FYC shall be responsible for providing or approving the management, staffing, promotion, and development of the following programs and activities. FYC shall coordinate with the Fayetteville School System for use of their facilities. FYC shall be responsible for the majority of sports and activities held at indoor recreation facilities, including but not limited to the following:

- | | |
|--|----------------------------------|
| - Basketball | - School Kids Connection |
| - Baton | - Swim Programs |
| - Camps | - Youth Volleyball |
| - Cheerleading | - Tackle Football |
| - Dance | - Track |
| - Fishing Rodeo | - Special Events |
| - Flag Football (Youth) | - Summer / School Break Programs |
| - Golf | - Educational Programs |
| - Gymnastics | - Arts and Crafts |
| - Karate | |
| - Ping Pong | |
| - FYC shall not compete/duplicate with those services listed in paragraph 4, unless agreed upon by the FYC Executive Director and the Parks and Recreation Director. | |

4. Parks and Recreation shall be responsible for providing or approving the management, staffing, promotion, and development of the following programs and activities. Parks and Recreation shall be responsible for the majority of sports and activities held at outdoor recreation facilities, including but not limited to the following:

- | | |
|---------------------------|-------------------------------------|
| - Baseball | - Yvonne Richardson |
| - Kickball | Community Center |
| - Softball | Activities |
| - Flag Football (Adult) | i. Arts and Crafts |
| - Special Interest Groups | ii. Educational Programs |
| - Sand Volleyball | iii. Summer / School Break Programs |
| - Adult Volleyball | iv. Wrestling |
| - Soccer | v. Volleyball (Adult) |
| - Special Events | vi. Other |
| - Swim Programs | Recreational |
| - Tennis | Programs |
| - Youth Activity Camps | |
| - Ultimate Frisbee | |

5. FYC agrees not to establish a program that competes/duplicates with an established program provided by Parks and Recreation. Moreover, FYC agrees to provide Parks and Recreation with information relating to any of its programs including rosters of players and coaches, rules of the league, and similar relevant data upon request by Parks and Recreation. It is the intent of both parties to work together for the common good of the citizens of Fayetteville by not providing public funding for duplicate program offerings. It is understood that FYC and Parks and Recreation both currently provide swim lessons, aquatic programs, and summer/school break programs, and that both parties agree to work together for the common good of both parties.
6. In the event the FYC wishes to offer programs which fall in the general description of paragraph 5 above, which it does not believe competes with current Parks and Recreation program, FYC shall provide advance notice of intent to start the program to Parks and Recreation with time to determine whether it is a competing program or not. In the event that FYC offers a program that the Parks and Recreation believes is a duplicate program within the meaning of this document, Parks and Recreation Staff shall give FYC written notices of its assessment. FYC shall either cease operating such program within 30 days of such notice or shall provide a written response to Parks and Recreation that disputes whether such program is in fact a competing program. If FYC fails to cease such program or respond to the assessment from Parks and Recreation, the City may discontinue funding for FYC on the 31st day after such notice. If FYC files a dispute, the issue shall be resolved by City Council and finding of City Council shall be final and not subject to appeal. If FYC fails to cease operation of such a program within 30 days of a decision requiring such cessation by City Council, then the City may stop annual funding to FYC.
7. The FYC Executive Director and Parks and Recreation Director will work jointly in opening the FYC as an emergency shelter as deemed necessary by the Washington County Emergency Operations Center. The Club will utilize funds appropriated by the City of Fayetteville for operational costs as necessary for the emergency shelter.
8. The FYC Executive Director and Parks and Recreation Director shall have periodic meetings to ensure communication between the two entities.
9. It is understood and agreed that the City's annual purchase of services shall be negotiated on a yearly basis.
10. The FYC Board of Directors is responsible for the management and operation of the annual funding allocation to FYC from the City of Fayetteville and shall have the responsibility for prioritizing the use of such funds.
11. As part of the annual funding, FYC agrees to make its facilities available to residents of the City of Fayetteville for a nominal daily fee without the need to purchase a membership to the club.

12. FYC shall schedule a meeting and submit an annual financial report to the City of Fayetteville on or before July 31 of each year. Such report shall detail FYC's use of the City of Fayetteville's funding allocation and accomplishment of performance measures as stated below in number 14.
13. FYC shall comply with schedules and procedures established by the Budget and Research Division of the City of Fayetteville for annual funding requests.
14. FYC shall provide transportation for the Yvonne Richardson Community Center as needed for the following activities including, but not limited to:
 - A. Throughout the Summer Fun4Kids Program provide bus transportation each day to the Fayetteville Public School free lunch program at the designated school site. This should include transportation for up to 70 children from the YRCC to the Public School and back to the YRCC after lunch.
 - B. Throughout the Summer Fun4Kids Program provide bus transportation on pre-scheduled afternoons from the YRCC to FYC. Participants in the Summer Fun4Kids program will also have free admittance to the FYC facilities on pre-scheduled afternoons and transportation back to the YRCC at the conclusion of the program day.
 - C. Throughout the academic school year provide transportation on designated dates previously agreed upon by both parties as part of the YRCC after school program.
 - D. FYC will also provide transportation for YRCC patrons as deemed necessary by FYC Staff and the YRCC Director, provided that these arrangements have been done in a timely matter and are agreed upon by both parties prior to the requested date and time.
 - E. The transportation schedule outlined above is subject to change upon agreement by the Fayetteville Parks and Recreation Director and the Executive Director of the FYC.
15. FYC will provide bus transportation to be used for shuttling purposes for participants in running or biking special events offered by the Parks and Recreation Department at least two times a year provided that these arrangements have been done in a timely matter and agreed upon by both parties prior to the requested date and time.
16. Quarterly reports shall be submitted to the Parks and Recreation Director on the following dates: April 15, July 15, October 15, and January 15 (2019). These reports will detail the following performance measures:
 - A. Provide a minimum of 30 open recreation hours per week at the FYC club facilities.
 - B. Provide a minimum of 10 youth instructional/educational programs.
 - C. Provide a minimum of three youth sports programs.
 - D. Provide a minimum of two free community-wide events at the FYC club facilities.

- E. Provide marketing materials to Fayetteville school children for major sport programs.
- F. Implement three customer service surveys for FYC programs.
- G. Apply for 10 grants/major corporate sponsorships to provide additional funding to operate the FYC facilities and programs.
- H. Include Parks and Recreation logo on organizational web site and acknowledge the City of Fayetteville on sponsor wall located in the FYC facilities on Ruppel Road.

The working procedures and responsibilities contained herein shall become effective January 1, 2018.

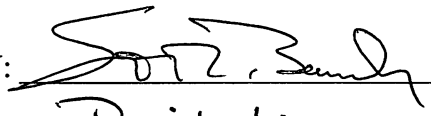
CITY OF FAYETTEVILLE

BY: _____
LIONELD JORDAN, Mayor

Attest:

BY: _____
Sondra E. Smith, City Clerk / Treasurer

FAYETTEVILLE YOUTH CENTER, INC.

BY: 
President

Title

Attest:

BY:  _____



City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2017-0594

Agenda Date: 12/5/2017

Version: 1

Status: Agenda Ready

In Control: City Council Meeting

File Type: Resolution

Agenda Number: C. 5

2017 WATER MASTER PLAN UPDATE:

A RESOLUTION TO ACCEPT AND ADOPT THE 2017 WATER MASTER PLAN UPDATE

WHEREAS, the City Council passed Resolution No. 116-16 on June 7, 2016, authorizing a contract with McGoodwin Williams and Yates to develop a Water Master Plan Update; and

WHEREAS, the 2017 update to the City's Water Master Plan complies with the Arkansas Department of Health regulation requiring long range planning and also serves as a planning tool for future Capital Improvement Program projects.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby adopts the 2017 Water Master Plan Update, a copy of which is attached to this Resolution.

City of Fayetteville Staff Review Form

2017-0594

Legistar File ID

12/5/2017

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Tim Nyander

11/15/2017

Utilities Director /
Utilities Department

Submitted By

Submitted Date

Division / Department

Action Recommendation:

Staff recommends a resolution to accept and adopt the 2017 Water Master Plan Update completed by McGoodwin, Williams and Yates, Inc.

Budget Impact:

N/A

N/A

Account Number

Fund

N/A

N/A

Project Number

Project Title

Budgeted Item? NA

Current Budget \$ -

Funds Obligated \$ -

Current Balance \$ -

Does item have a cost? NA

Item Cost \$ -

Budget Adjustment Attached? NA

Budget Adjustment \$ -

Remaining Budget \$ -

V20140710

Previous Ordinance or Resolution # 116-16

Original Contract Number:

Approval Date:

Comments:



MEETING OF DECEMBER 5, 2017

TO: Mayor and City Council

THRU: Don Marr, Chief of Staff
Water & Sewer Committee

FROM: Tim Nyander, Utilities Director

DATE: November 16, 2017

SUBJECT: Water Master Plan Update

RECOMMENDATION:

Staff recommends a resolution to accept and adopt the Water Master Plan Update.

BACKGROUND:

McGoodwin Williams and Yates (MWY) was selected in a formal engineering selection committee meeting on April 1, 2016 (RFQ 16-01) to provide a Water Master Plan Update (that agreement also included engineering services for a Dinsmore Trail Waterline Upgrade). Resolution 116-16 was passed on June 7, 2016 that approved the Water Master Plan Update with MWY.

DISCUSSION:

The Water Master Plan Update provides a planning tool for our future Capital Improvement Program projects. Additionally, Arkansas Department of Health Regulations include the requirement for long range planning and requested five (5) year updates. The previous update to the Water Master Plan was done in 2011 (by MWY).

McGoodwin, Williams and Yates was given approximately 1 year to complete the Water Master Plan Update. This proposed resolution will accept and adopt the Water Master Plan Update completed by McGoodwin, Williams and Yates.

The plan was presented to the Water, Sewer and Solid Waste Committee on September 12, 2017 and October 10, 2017. The committee voted in favor of forwarding the item to the City Council with a recommendation for approval on November 14, 2017.

The full version of the 2017 Water Master Plan Update with full-size 11" by 17" maps and tables is available at fayetteville-ar.gov/3355.

BUDGET/STAFF IMPACT:

The Water Master Plan Update was paid for out of the Water System Rehabilitation project in 2016.

Attachments:

Resolution 116-16

Water Master Plan Update



113 West Mountain
Street Fayetteville,
AR 72701
(479) 575-8323

Resolution: 116-16

File Number: 2016-0223

MCGOODWIN, WILLIAMS AND YATES, INC.:

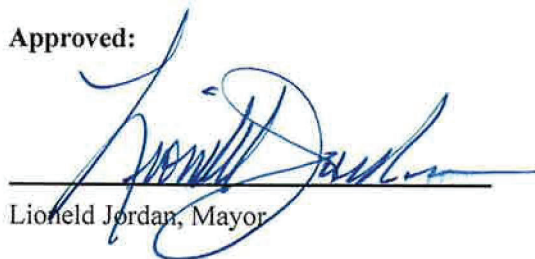
A RESOLUTION TO APPROVE A PROFESSIONAL ENGINEERING SERVICES AGREEMENT WITH MCGOODWIN, WILLIAMS AND YATES, INC. IN AN AMOUNT NOT TO EXCEED \$182,077.00 FOR A WATER MASTER PLAN UPDATE AND FOR DESIGN, BIDDING AND CONSTRUCTION PHASE SERVICES FOR THE REPLACEMENT OF APPROXIMATELY 3,000 FEET OF WATER LINE ON DINSMORE TRAIL.

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby approves a professional engineering services agreement, a copy of which is attached to this Resolution, with McGoodwin, Williams and Yates, Inc., pursuant to RFQ # 16-01, in an amount not to exceed \$182,077.00 for a Water Master Plan update and for design, bidding and construction phase services for the replacement of approximately 3,000 feet of water line on Dinsmore Trail.

PASSED and APPROVED on 6/7/2016

Approved:


Lionel Jordan, Mayor

Attest:


Sondra E. Smith, City Clerk
Treasurer





CITY OF
FAYETTEVILLE
ARKANSAS

WATER MASTER PLAN UPDATE



Submitted by

McGoodwin Williams & Yates

July 2017

MWY Project No. FY0363



CITY OF
FAYETTEVILLE
ARKANSAS

WATER MASTER PLAN UPDATE



Submitted by

McGoodwin Williams & Yates

302 E. Millsap Road
Fayetteville, Arkansas 72703
PH: 479-443-3404
FX: 479-443-4340
www.mwyusa.com

MWY Project No. FY0363

July 2017

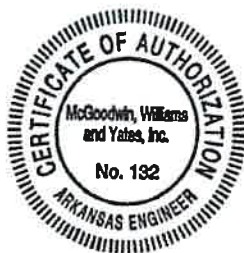


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Introduction and Scope of Work

In 2016, the City of Fayetteville authorized McGoodwin, Williams & Yates (MWY) to conduct a Master Plan Study for the water distribution system and recommend capital improvements for future growth. The study includes population and usage projections, water quality analyses, fire flow analyses and an evaluation of additional water transmission supply lines from Beaver Water District.

The report details immediate and long term recommendations for improvements to the Fayetteville water distribution system to meet the growing population and demands for the next 20-years. Specifically, recommendations include planning-level scopes, schematic maps and opinions of probable costs for recommended CIP projects for the following design horizons:

- Immediate improvements
 - Phase 1 (Present - 2022)
- Future Improvements
 - Phase 2 (2022 - 2027)
 - Phase 3 (2027 - 2037)

Planning and Growth Areas

A review of recent growth in the City of Fayetteville reveals that most growth and expansion of commercial and residential subdivisions have been in the western and eastern regions of the planning area. The city limits of Springdale, Farmington and Greenland have prevented any extensive growth to the north, south and southwest where the planning area boundary and the city limit lines are very nearly the same. The current Planning Area consists of approximately 56,700 acres with the Fayetteville city limit encompassing approximately 34,100 acres within the Planning Area boundary.

For purposes of this study, the planning area was divided into six distinct growth areas. Those areas are designated as the West, Northwest, Northeast/East, Southeast, Existing Service Area and Downtown. The Downtown growth area is comprised of the Inner and Outer Core, which are defined in Fayetteville's City Plan 2030. The Existing Service growth area includes all projected system growth outside of the other growth areas discussed. Section 2.0 of the report contains a figure illustrating the boundaries of the growth areas.

The City of Fayetteville currently supplies bulk sale water to several cities/rural water districts that are outside of the current planning boundary. These include the City of West Fork, City of Elkins, Mount Olive Water Association and, on request, the Washington Water Authority.

Projected Population and Water Use

Based on historical census data and projected trend lines, the population of Fayetteville is projected to exceed 138,000 by the design year of 2037. However, this projection is for the population located only within the Fayetteville city limits and not for the actual population served by the City's water service boundary. Currently, Fayetteville supplies water to the bulk sale customers West Fork, Elkins and the Mt. Olive Water Association as well as Goshen, Greenland, Farmington and portions of Washington County (i.e. Wheeler, etc.) and the City of Johnson. Adding these areas would increase the projected population served by the City of Fayetteville to approximately 170,000 by the year 2037.

To project water usage, historical average day and maximum day usage was analyzed from 1990 through 2016. Average-day water demands for the design horizons were then projected Using a trend line analysis. Based on the historical usage data, a maximum day to average day ratio of 2.0 was used to predict probable maximum day demands.

The table below summarizes projected average day and maximum day demands for the growth areas and bulk sale customers for each design horizon. The amount of usage for each growth area was determined by applying a percentage of the projected increased usage for each design horizon. The percentage assigned to each growth area was determined based on previous studies, vacant property and topography in each growth region as well as historical and anticipated growth for these areas.

Average & Maximum Day Projected Water Use

Growth Area/ Bulk Sales	Average Day			Maximum Day		
	2022 (MGD)	2027 (MGD)	2037 (MGD)	2022 (MGD)	2027 (MGD)	2037 (MGD)
	Water Service Area			Water Service Area		
Existing Fayetteville System	14.15	14.15	14.15	18.84	18.84	18.84
Growth Areas						
Downtown (Inner & Outer Core)	0.32	0.49	0.87	1.74	2.08	2.86
Existing Service Area	0.12	0.17	0.31	0.63	0.76	1.04
West	1.00	1.51	2.69	5.36	6.43	8.85
Northwest	0.74	1.12	1.98	3.94	4.73	6.51
Northeast and East	0.35	0.54	0.95	1.89	2.26	3.12
Southeast	0.41	0.62	1.10	2.21	2.65	3.64
Bulk Sales						
West Fork	0.19	0.21	0.24	0.27	0.28	0.33
Mt. Olive Water Association	0.19	0.22	0.28	0.22	0.25	0.31
Elkins	0.21	0.27	0.45	0.26	0.33	0.54
Total (MGD)	17.68	19.30	23.02	35.36	38.61	46.04

System Analysis and Recommendations

In the study of the Fayetteville distribution system, MWY's initial step was to analyze the existing system to discover any deficiencies that may exist using the updated Fayetteville hydraulic water model. MWY then created a 20-year master plan for system improvements necessary to meet the needs of the City. The model was operated utilizing the existing and projected system demands and took into consideration the operational requirements unique to the Fayetteville system.

The first step of the Master Plan consisted of modifying the previous hydraulic model to reflect the current distribution system. The system was modeled using InfoWater by Innovyze, Inc. The updated model included approximately 13,850 pipe segments and 12,456 nodes, representing 15 tanks, 9 booster stations, and over 700 miles of water piping.

Once the model infrastructure was completed, existing average and maximum day demands were placed into the model at the approximate location where the demands occur in the system through a process called geocoding. Using Arc View version 10.4 software, geocoding was accomplished by obtaining individual account usage files from city water billing records and matching them to the exact locations in the City's street centerline geo-reference file.

The model was then calibrated successfully by comparing actual pressure and flow data measured within the system to predicted model results. At the end, the average deviation of modeled pressures from field pressures was approximately three (3) percent, providing confidence of modeled results in the later analyses.

Using the water model, the existing system was analyzed to determine areas with low pressures and/or marginal fire flow capabilities, and a water quality analysis was performed to predict areas with low chlorine residuals and/or significant water residence times. Growth projections were added to the model and recommended system improvements were then determined for each of the three design horizons.

According to the analysis, the construction of the recommended improvements will enable the city to supply domestic and fire flow demands for the projected growth during the design horizons based on the projected growth patterns. If growth patterns change over time, or if overall growth accelerates, the required timing of the improvements may change.

Recommended improvements by phase along with a summary of the opinion of probable costs are itemized in the tables below. The improvement costs include valves, fittings, fire hydrants, street crossings or borings and an estimation of rock that may be encountered during the construction phase. The opinion of probable cost is based on current costs of similar construction and is provided for planning and budgetary purposes. Actual costs may vary depending upon actual bids received. The costs shown for all phases reflect present values (2017 dollars) and include an estimate of construction contingencies and engineering fees. The estimates do not include right-of-way expenses, legal fees or acquisition of permits.

The improvements for each design phase are described in greater detail in the body of the report and shown in the Distribution Improvements Map located in Appendix A. Appendix G contains a more detailed itemization of the calculation of probable costs.

Table 8.1
Summary of Opinion of Probable Costs
Phase I Improvements (2017-2022)
Fayetteville Water Master Plan

Line/Item No.	Approximate Length (LF)	Pipe Diameter (in)	Approximate Cost per LF *	Construction Cost (Rounded)	Engineering & Contingencies (25%)	Total Project Cost **
East Fayetteville Improvements						
EF-1	3,800	18	\$ 143.95	\$ 550,000.00	\$ 137,500.00	\$ 687,500.00
EF-2	4,600	18	\$ 142.88	\$ 660,000.00	\$ 165,000.00	\$ 825,000.00
EF-3	3,030	8	\$ 41.72	\$ 130,000.00	\$ 32,500.00	\$ 162,500.00
Tank-1	0.75-MG Elevated Tank			\$ 2,000,000.00	\$ 500,000.00	\$ 2,500,000.00
PS-1	East Fayetteville Pump Station			\$ 450,000.00	\$ 112,500.00	\$ 562,500.00
AV-1	Altitude Valve & Vault (E. Paul Pray Dr.)			\$ 70,000.00	\$ 17,500.00	\$ 87,500.00
Subtotal East Fayetteville Improvements				\$ 3,860,000.00	\$ 965,000.00	\$ 4,825,000.00
Township Improvements						
T-1	400	8	\$ 57.50	\$ 23,000.00	\$ 5,750.00	\$ 28,750.00
T-2	570	8	\$ 57.37	\$ 33,000.00	\$ 8,250.00	\$ 41,250.00
Tank-2	0.25-MG Elevated Tank			\$ 1,210,000.00	\$ 302,500.00	\$ 1,512,500.00
PS-2	Township Pump Station			\$ 250,000.00	\$ 62,500.00	\$ 312,500.00
Subtotal Township Improvements				\$ 1,516,000.00	\$ 379,000.00	\$ 1,895,000.00
Benson Mountain Improvements						
B-1	2,200	4	\$ 12.59	\$ 28,000.00	\$ 7,000.00	\$ 35,000.00
PS-3	Benson Mountain Pump Station			\$ 215,000.00	\$ 53,750.00	\$ 268,750.00
Subtotal Benson Mountain Improvements				\$ 243,000.00	\$ 60,750.00	\$ 303,750.00
Major Water Line Improvements (16" Pipes and Greater)						
I-1	5,300	18	\$ 158.11	\$ 840,000.00	\$ 210,000.00	\$ 1,050,000.00
Subtotal Major Waterline Improvements				\$ 840,000.00	\$ 210,000.00	\$ 1,050,000.00
Minor Water Line Improvements (12" Pipes and Less)						
I-2a	6,260	12	\$ 87.88	\$ 550,000.00	\$ 137,500.00	\$ 687,500.00
I-3	200	12	\$ 95.00	\$ 19,000.00	\$ 4,750.00	\$ 23,750.00
I-4	50	8	\$ 164.00	\$ 8,000.00	\$ 2,000.00	\$ 10,000.00
I-5	420	8	\$ 63.33	\$ 27,000.00	\$ 6,750.00	\$ 33,750.00
I-6	460	8	\$ 72.17	\$ 33,000.00	\$ 8,250.00	\$ 41,250.00
I-7	25	12	\$ 416.00	\$ 11,000.00	\$ 2,750.00	\$ 13,750.00
Subtotal Minor Waterline Improvements				\$ 648,000.00	\$ 162,000.00	\$ 810,000.00
Other Improvements						
PS-4	Kessler Mountain Pump Station			\$ 520,000.00	\$ 130,000.00	\$ 650,000.00
PS-5	Booster Pump Stations (3 total)			\$ 150,000.00	\$ 37,500.00	\$ 187,500.00
PRV-1	Pressure Reducing Valve (Van Hoose Dr.)			\$ 15,000.00	\$ 3,750.00	\$ 18,750.00
Subtotal Other Improvements				\$ 685,000.00	\$ 171,250.00	\$ 856,250.00
Total				\$ 7,792,000.00	\$ 1,948,000.00	\$ 9,740,000.00

**Summary of Opinion of Probable Costs
Phase II Improvements (2022-2027)
Fayetteville Water Master Plan**

Line No.	Approximate Length (LF)	Pipe Diameter (in)	Approximate Cost per LF *	Construction Cost (Rounded)	Engineering & Contingencies (25%)	Total Project Cost **
Major Water Line Improvements (16" Pipes and Greater)						
II-1	4,900	18	\$ 153.06	\$ 750,000.00	\$ 187,500.00	\$ 937,500.00
Subtotal Major Waterline Improvements				\$ 750,000.00	\$ 187,500.00	\$ 937,500.00
Minor Water Line Improvements (12" Pipes and Less)						
Subtotal Minor Waterline Improvements				\$ -	\$ -	\$ -
Other Improvements						
Subtotal Other Improvements				\$ -	\$ -	\$ -
Total				\$ 750,000.00	\$ 187,500.00	\$ 937,500.00

**Summary of Opinion of Probable Costs
Phase III Improvements (2027-2037)
Fayetteville Water Master Plan**

Line No.	Approximate Length (LF)	Pipe Diameter (in)	Approximate Cost per LF *	Construction Cost (Rounded)	Engineering & Contingencies (25%)	Total Project Cost **
Major Water Line Improvements (16" Pipes and Greater)						
III-1	57,850	48	\$ 491.69	\$ 28,444,000.00	\$ 7,111,000.00	\$ 35,555,000.00
III-2	4,500	18	\$ 141.22	\$ 640,000.00	\$ 160,000.00	\$ 800,000.00
Subtotal Major Waterline Improvements				\$ 29,084,000.00	\$ 7,271,000.00	\$ 36,355,000.00
Minor Water Line Improvements (12" Pipes and Less)						
Subtotal Minor Waterline Improvements				\$ -	\$ -	\$ -
Other Improvements						
Subtotal Other Improvements				\$ -	\$ -	\$ -
Total				\$ 29,084,000.00	\$ 7,271,000.00	\$ 36,355,000.00

In 2016, the City of Fayetteville authorized McGoodwin, Williams & Yates (MWY) to conduct a Master Plan Study for the water distribution system and recommend capital improvements for future growth. The study includes population and usage projections, water quality analyses, fire flow analyses and an evaluation of additional water transmission supply lines from Beaver Water District.

The following report details immediate and long term recommendations for improvements to the Fayetteville water distribution system to meet the growing population and demands for the next 20-years.

1.1 Scope of Services

The Scope of the Master Plan Study includes the following:

- Utilize Innovyze InfoWater software and the City's current water model.
- Review model and make necessary updates based on the City's current GIS.
- Create diurnal demand curves for each usage class.
- Geocode water usage data from the City's billing records.
- Evaluate and place major demand customers in model.
- Perform necessary field work to obtain flows, pressures and other data at appropriate locations and use this information to calibrate the water model.
- Analyze the water distribution system under existing conditions for the year 2017 and projected conditions of population and water use through the year 2037 that includes the following:
 - Average Day Demand
 - Maximum Day Demand
 - Maximum Hourly Demand
 - Fire Flow Conditions
- Identification of major low pressure areas within the distribution system and recommendations on mitigation of the low pressure (less than 40 pound per square inch (psi)) at projected demands.
- Identification of improvements required to serve the City's water service territory, including the planning area jurisdiction.

- Develop recommended sizing and preliminary routing of future distribution and/or transmission lines in anticipated major growth areas, generally requiring pipe sizes 12 inches or greater.
- Evaluation of adequacy of total system storage and recommendation on locations for new storage and booster stations that may be required.
- Using the updated hydraulic water model, perform a water quality analysis to evaluate the chlorine residual and residence time (age), to identify potential problem regions within the distribution system.
- Evaluate and make recommendations for the following specific areas as requested by the City of Fayetteville.
 - East Fayetteville Improvements, including evaluating the potential need for separating the Gulley and Goshen pressure planes, including revised scope and opinion of costs.
 - Recommendations for the Benson Mountain Pressure Plane and water tank (east of Goshen). Options as identified by the City of Fayetteville include relocating existing standpipe; relocating the Township water tank to Benson; and providing a new elevated water tank at Benson Mountain.
 - Recommendations for the Township Pressure Plane and water tank, and the Ash Street pump station. The City of Fayetteville is considering additional storage for Township.
- Prepare planning-level scopes, schematic maps and opinions of probable costs for recommended CIP projects including:
 - Immediate improvements
 - Phase 1 (Present - 2022)
 - Future Improvements
 - Phase 2 (2022 - 2027)
 - Phase 3 (2027 – 2037)
- Assist the City of Fayetteville with review and understanding of existing automated valve system using a previous study performed by others and/or the existing operation & maintenance manual prepared by others.
- Prepare and transmit a draft report describing the analyses and recommendations for review by the City of Fayetteville. After receiving review comments from the city, prepare and transmit a final report to the City of Fayetteville and the Arkansas Department of Health.
- The Water Master Plan Update will include the requirements of the Arkansas Department of Health, Arkansas Public Water system Compliance Summary including Chapter 12: "Water System Planning and Capacity Development".

A review of recent growth in the City of Fayetteville reveals that most growth and expansion of commercial and residential subdivisions have been in the western and eastern regions of the planning area. The city limits of Springdale, Farmington and Greenland have prevented any extensive growth to the north, south and southwest where the planning area boundary and the city limit lines are very nearly the same. The current Planning Area consists of approximately 56,700 acres with the Fayetteville city limit encompassing approximately 34,100 acres within the Planning Area boundary. Based on the 2010 census population of 73,580, the present density within the city limits is approximately 2.06 persons per acre.

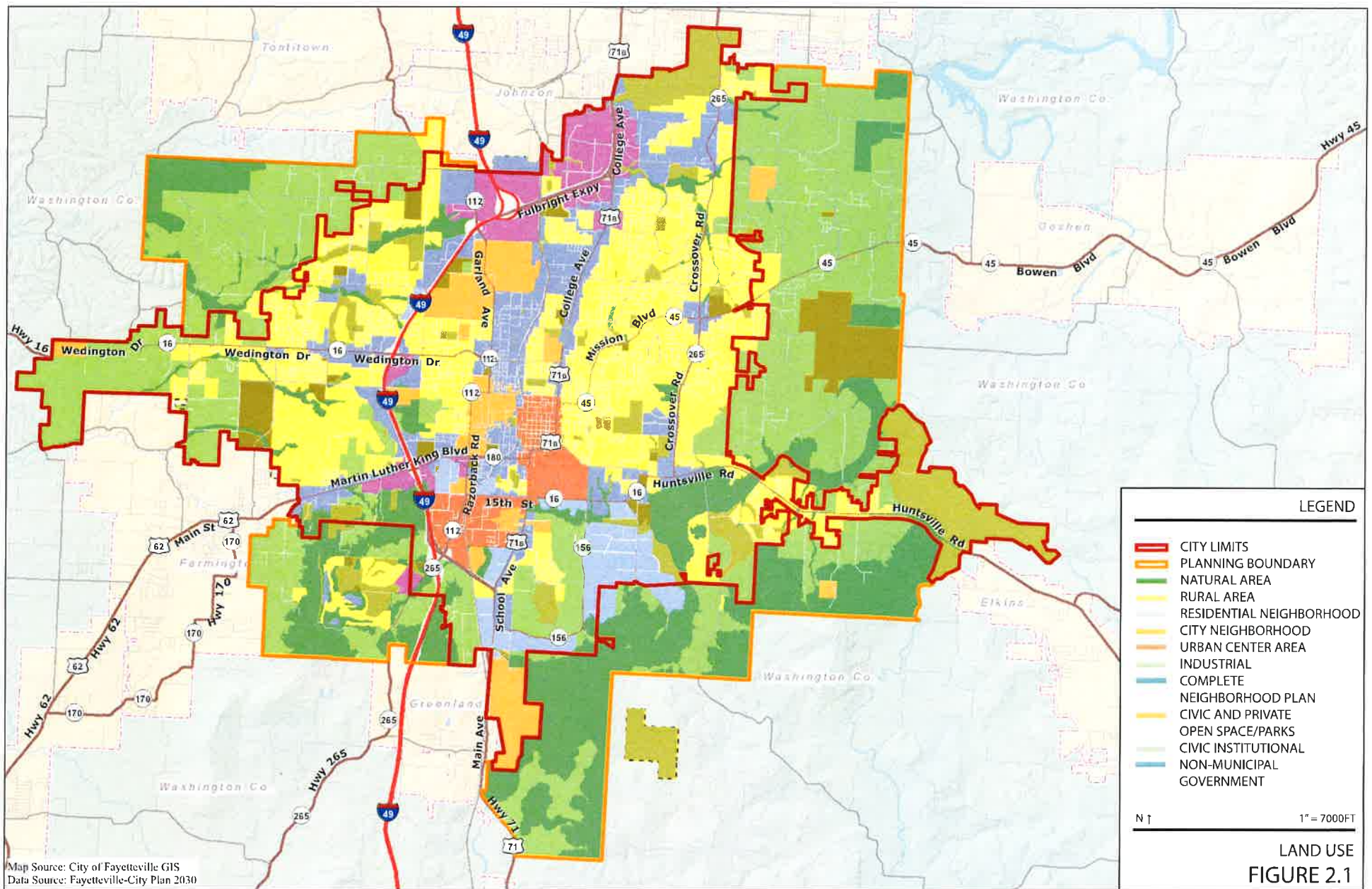
Figure 2.1 shows a map of the future planned land use in the planning jurisdiction along with the current city limits and planning boundary for the city of Fayetteville. The land use maps are important in assisting in the determination and location of the different types of demands (residential, commercial and industrial) that could be generated within the Fayetteville water service boundary.

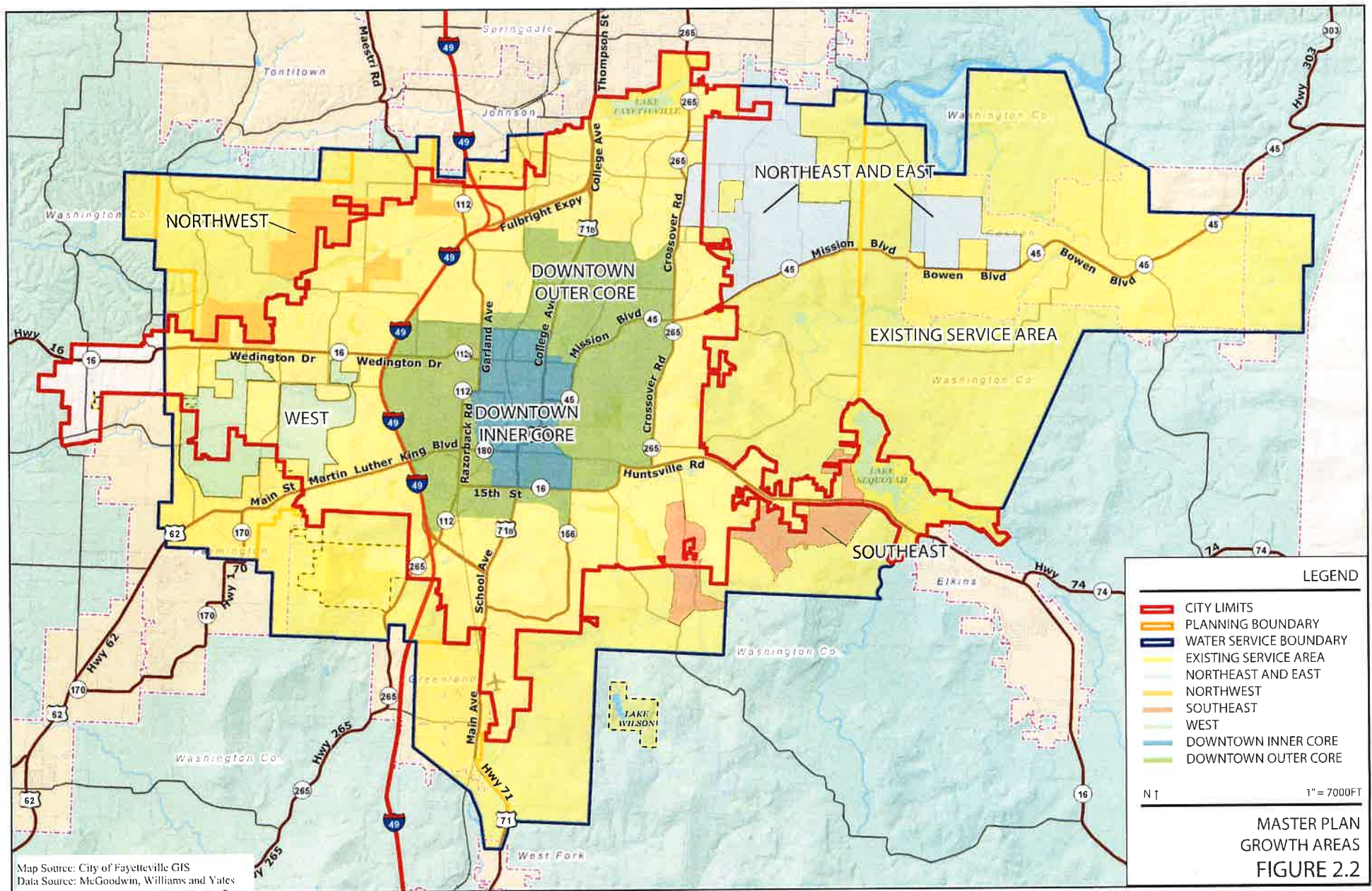
For purposes of this study, the planning area was divided into six distinct growth areas. Those areas are designated as the West, Northwest, Northeast/East, Southeast, Existing Service Area and Downtown. The Downtown growth area is comprised of the Inner and Outer Core, which are defined in Fayetteville's City Plan 2030. The Existing Service growth area includes all projected system growth outside of the other growth areas discussed. Figure 2.2 illustrates the boundaries of the growth areas, with the approximate acreage for each growth area shown below:

- Downtown – 9,416 acres
- Existing Service Area – 58,976 acres
- West Area – 2,070 acres
- Northwest Area – 1,553 acres
- Northeast/East Area – 4,000 acres
- Southeast Area – 1,485 acres

Of the growth areas discussed, the Northwest and West have the largest potential for growth due to the relatively flat terrain and city utilities provided. The Northeast/East and Southeast are also experiencing growth but due to limited sewer service, etc. the projected growth potential of these areas is anticipated to be considerably less than those on the west side of Fayetteville.

The City of Fayetteville currently supplies bulk sale water to several cities/rural water districts that are outside of the current planning boundary. These include the City of West Fork, City of Elkins, Mount Olive Water Association and, on request, the Washington Water Authority.





3.0

HISTORICAL AND PROJECTED POPULATION AND WATER USE

3.1 Historical and Projected Population

To assist with projecting future populations for this study, census data for the City of Fayetteville was obtained from the UALR–Institute for Economic Advancement.

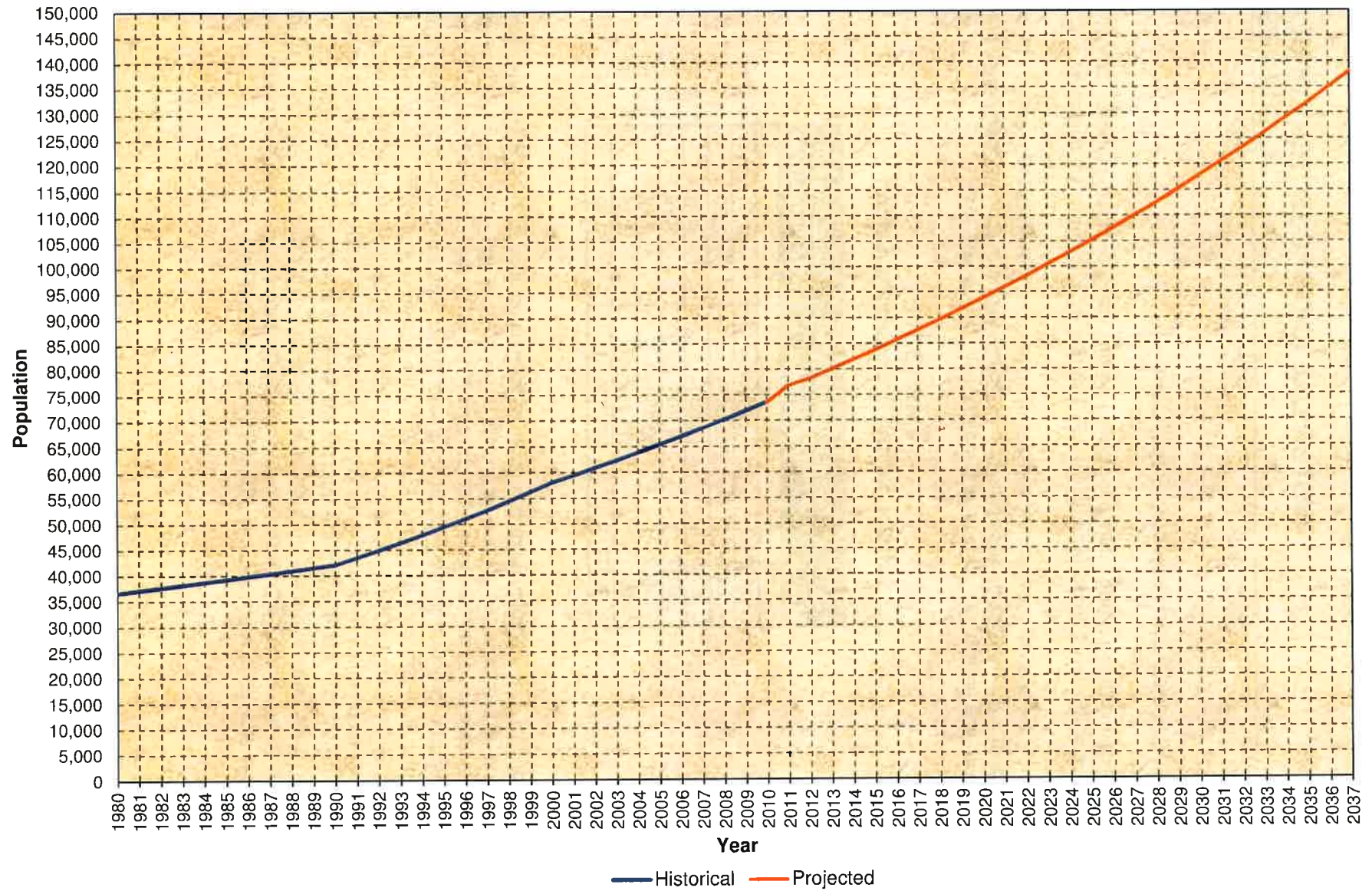
Table 3.1.1 sets out the historical census population and growth rate percentages from 1980 through 2010 for the City of Fayetteville as well as the estimated projected population growth and growth rate percentage through the design year of 2037.

Table 3.1.1
Historical and Projected Population

Year	Population/Projected Population	Annual Growth Rate Percentage
1980	36,608	---
1990	42,099	1.41
2000	58,047	3.26
2010	73,580	2.39
2017	87,706	2.54
2022	98,199	2.29
2027	110,056	2.31
2037	138,102	2.30

Figure 3.1.1, is a graphical representation of the data detailed in Table 3.1.1, and shows the historical and projected population growth through the design year. The blue line represents the historical census data from 1980 through 2010, while the red line represents the projected population growth from the year 2017 through 2037. Referring to the graph, the Fayetteville population is projected to exceed 138,102 by the design year of 2037. However, the figures shown above are for the population located only within the Fayetteville city limits and not for the actual population served by the City. Currently, Fayetteville supplies water to the bulk sale customers West Fork, Elkins and the Mt. Olive Water Association as well as Goshen, Greenland, Farmington and portions of Washington County (i.e. Wheeler, etc.) and the City of Johnson. Adding these areas would increase the projected population served by the City of Fayetteville to approximately 170,000 by the year 2037.

FIGURE 3.1.1
Fayetteville Historical and Projected Population



3.2 Historical Water Use

Table 3.2.1 shows the Fayetteville historical average day usage, maximum day usage and the maximum day to average day (M/A) ratio for 1990 through 2016. The average day is the mean of the daily usage for the calendar year while the day with the largest water usage for a given year constitutes the maximum day.

TABLE 3.2.1
Historical Water Usage

Year	Average Day (MGD)	Maximum Day (MGD)	Maximum Day/Average Day Ratio (M/A)
1990	10.21	15.69	1.54
1991	10.36	17.54	1.69
1992	10.17	12.84	1.26
1993	10.62	17.95	1.69
1994	11.56	18.94	1.64
1995	12.45	21.51	1.73
1996	12.55	19.19	1.53
1997	12.33	20.53	1.67
1998	13.28	23.82	1.79
1999	12.86	23.56	1.83
2000	13.08	23.77	1.82
2001	13.07	19.70	1.51
2002	13.73	23.63	1.72
2003	13.38	26.24	1.96
2004	13.04	19.86	1.52
2005	14.33	24.05	1.68
2006	14.75	25.12	1.70
2007	14.17	25.42	1.79
2008	13.01	20.93	1.61
2009	12.44	23.72	1.91
2010	13.15	23.12	1.76
2011	13.56	28.06	2.07
2012	14.49	25.12	1.73
2013	13.70	24.38	1.78
2014	14.23	24.43	1.72
2015	14.18	25.76	1.82
2016	14.99	21.21	1.42

The tables located in Appendix B detail the Fayetteville usage for each month from the year 1975 to the year 2016. The tables also contain the average day, maximum day and ratio of average day to maximum day for each month. The highest valid maximum day recorded to date happened in August 2011 when the usage reached 28.06 MGD. Table 3.2.1 also reveals

that the M/A ratio can vary significantly from one year to the next with the highest recorded M/A ratio occurring in 2011 with a ratio of 2.07. The year to year variations are typically weather dependent and largely represent water use on lawns, gardens and landscaped areas.

Figure 3.2.1 shows the historical consumption for Fayetteville by month from 1980 through 2016. The graph also shows seasonal variation in water usage as evidenced from the spikes occurring mid-year during most years. The absences of evenly spaced rains cause increases in irrigation demands during the summer periods, which significantly influence the size of the summer time spike.

3.3 Projected Water Use

Figure 3.3.1 shows the historical water usage projected forward over the next twenty years using a best-fit trend line. The trend line is based on historical usage data and engineering judgment and will assist in developing projected average day flows for each design horizon.

The figure also shows a “maximum day band”, which is projected over the 20-year design period. The higher values for the maximum day were based on an M/A ratio of 2.0 and the minimum values for the maximum day were based on an M/A ratio of 1.3. As shown in Table 3.2.1, the historical maximum day demands have generally fallen between the “maximum day band” illustrated in Figure 3.3.1.

An M/A ratio of 2.0 was used for design purposes based on the fact that historical water use records clearly indicate the potential for the maximum day usage to approach or exceed (2011) two times the average day usage during any given year. Recommended system improvements were designed to deliver twice the daily average flow to avoid water shortages and low pressures in the system.

Table 3.3.1 shows the projected average and maximum day demands as well as the M/A ratio for each of the design horizons. These design values were used for all the analyses in this study.

TABLE 3.3.1
Average Day, Maximum Day,
and M/A Design Values

Design Year	Average Day Usage (MGD)	Maximum Day Usage (MGD)	M/A Ratio
2022	17.68	35.36	2.0
2027	19.30	38.61	2.0
2037	23.02	46.04	2.0

FIGURE 3.2.1
Fayetteville Historical Usage

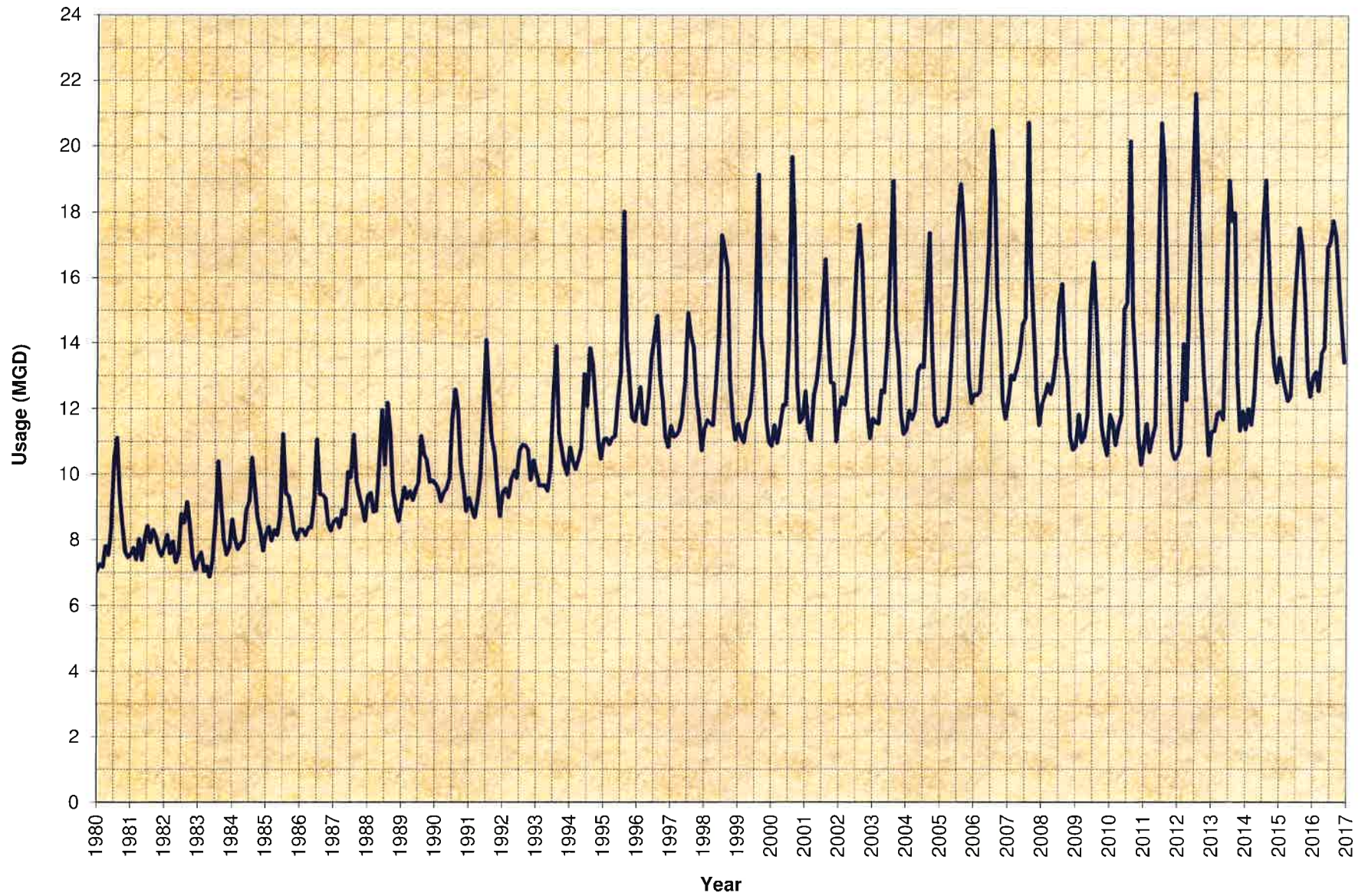
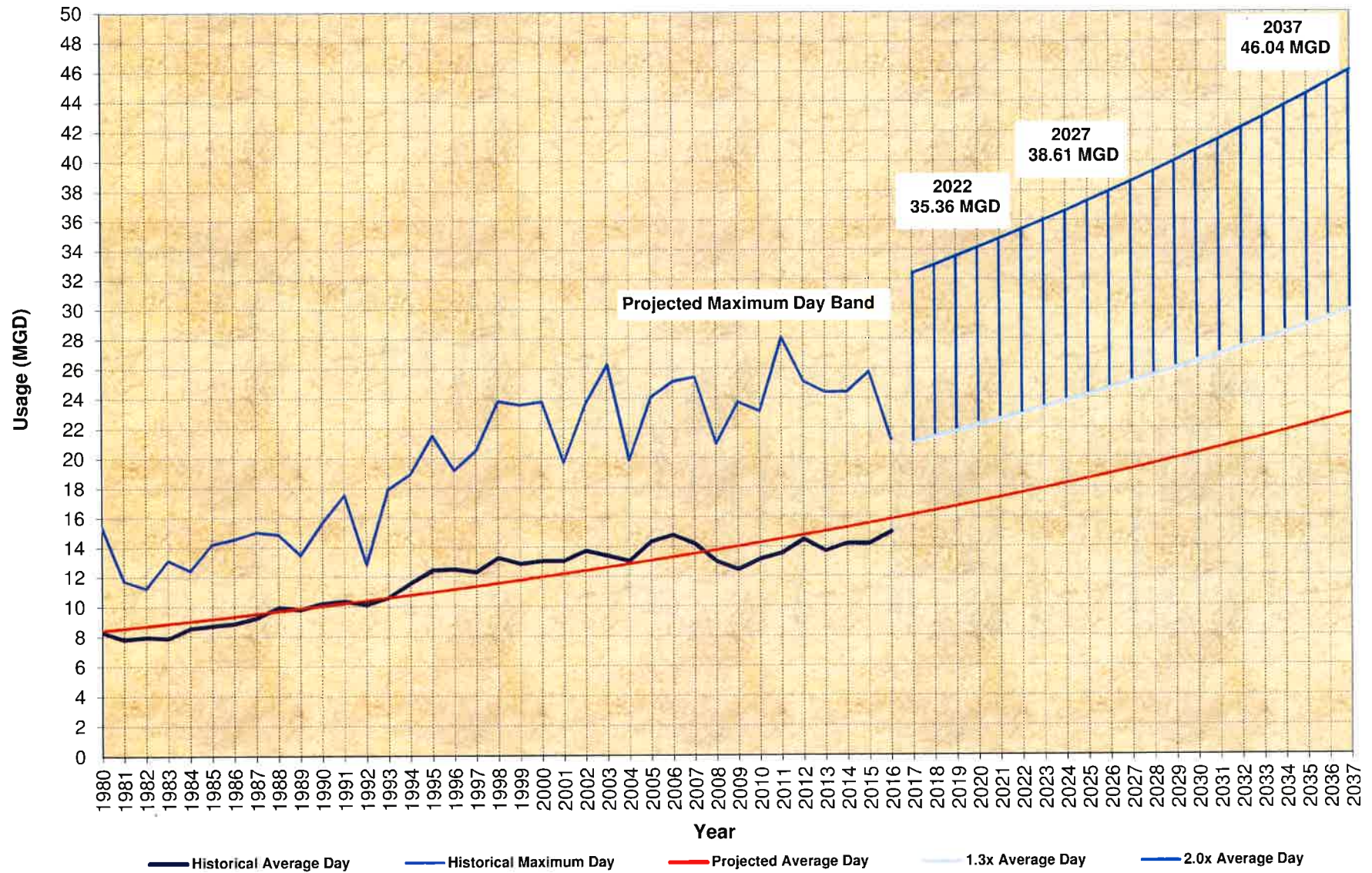


FIGURE 3.3.1
Historical and Projected Water Usage

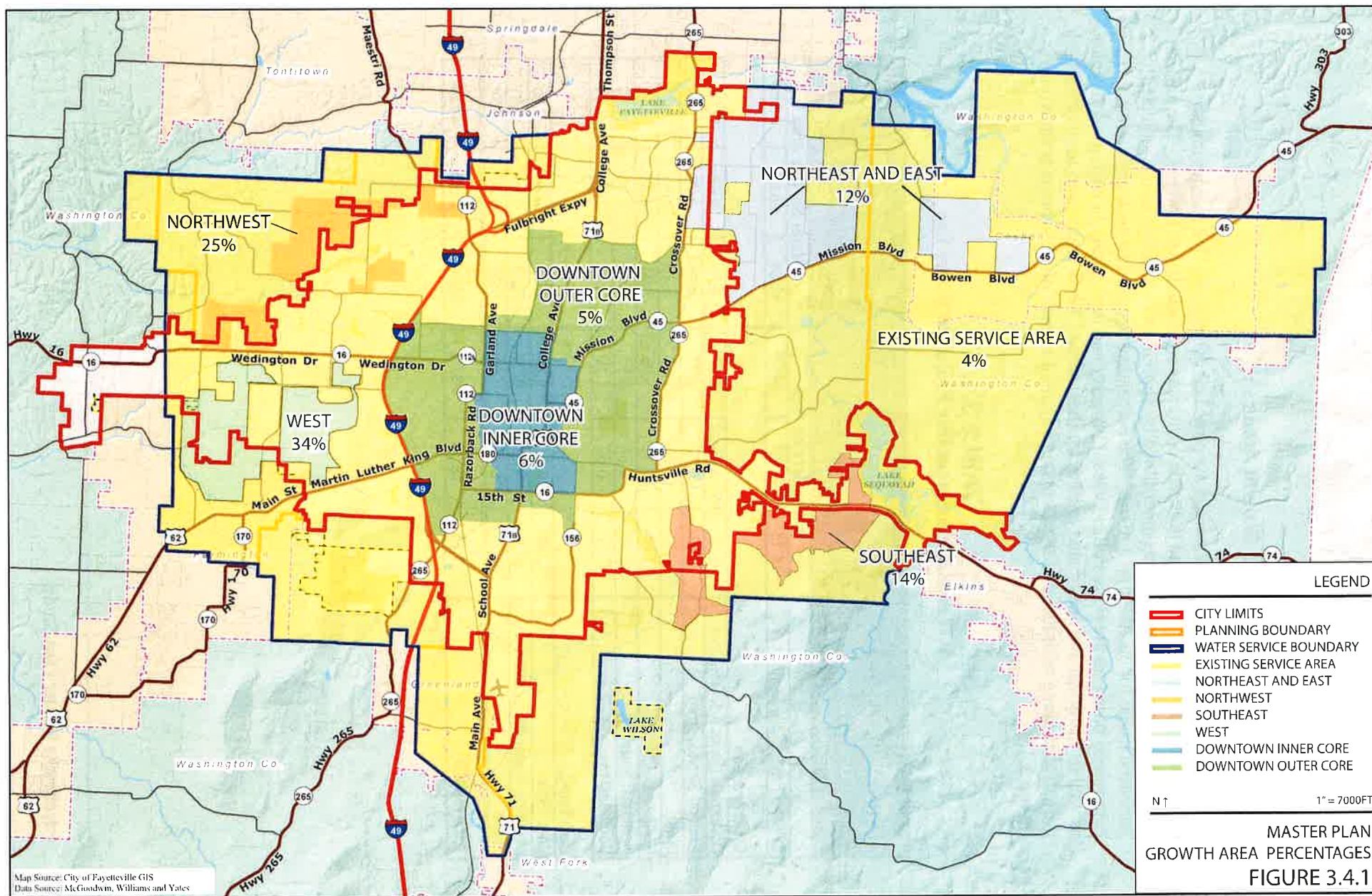


3.4 Projected Water Use by Growth Areas

Table 3.4.1 details how MWY allocated the projected average day and maximum day demands for the growth areas and bulk sale customers for each design horizon. The amount of usage for each growth area was determined by applying a percentage of the projected increased usage for each design horizon. The percentage assigned to each growth area was determined based on previous studies, vacant property and topography in each growth region as well as historical and anticipated growth for these areas. The location and limit of each growth area along with the growth percentages applied to each of these areas is shown in Figure 3.4.1.

TABLE 3.4.1
Average & Maximum Day Projected Water Use

Growth Area/ Bulk Sales	Average Day			Maximum Day		
	2022 (MGD)	2027 (MGD)	2037 (MGD)	2022 (MGD)	2027 (MGD)	2037 (MGD)
	Water Service Area			Water Service Area		
Existing Fayetteville System	14.15	14.15	14.15	18.84	18.84	18.84
Growth Areas						
Downtown (Inner & Outer Core)	0.32	0.49	0.87	1.74	2.08	2.86
Existing Service Area	0.12	0.17	0.31	0.63	0.76	1.04
West	1.00	1.51	2.69	5.36	6.43	8.85
Northwest	0.74	1.12	1.98	3.94	4.73	6.51
Northeast and East	0.35	0.54	0.95	1.89	2.26	3.12
Southeast	0.41	0.62	1.10	2.21	2.65	3.64
Bulk Sales						
West Fork	0.19	0.21	0.24	0.27	0.28	0.33
Mt. Olive Water Association	0.19	0.22	0.28	0.22	0.25	0.31
Elkins	0.21	0.27	0.45	0.26	0.33	0.54
Total (MGD)	17.68	19.30	23.02	35.36	38.61	46.04



4.0 EXISTING WATER DISTRIBUTION AND STORAGE SYSTEM

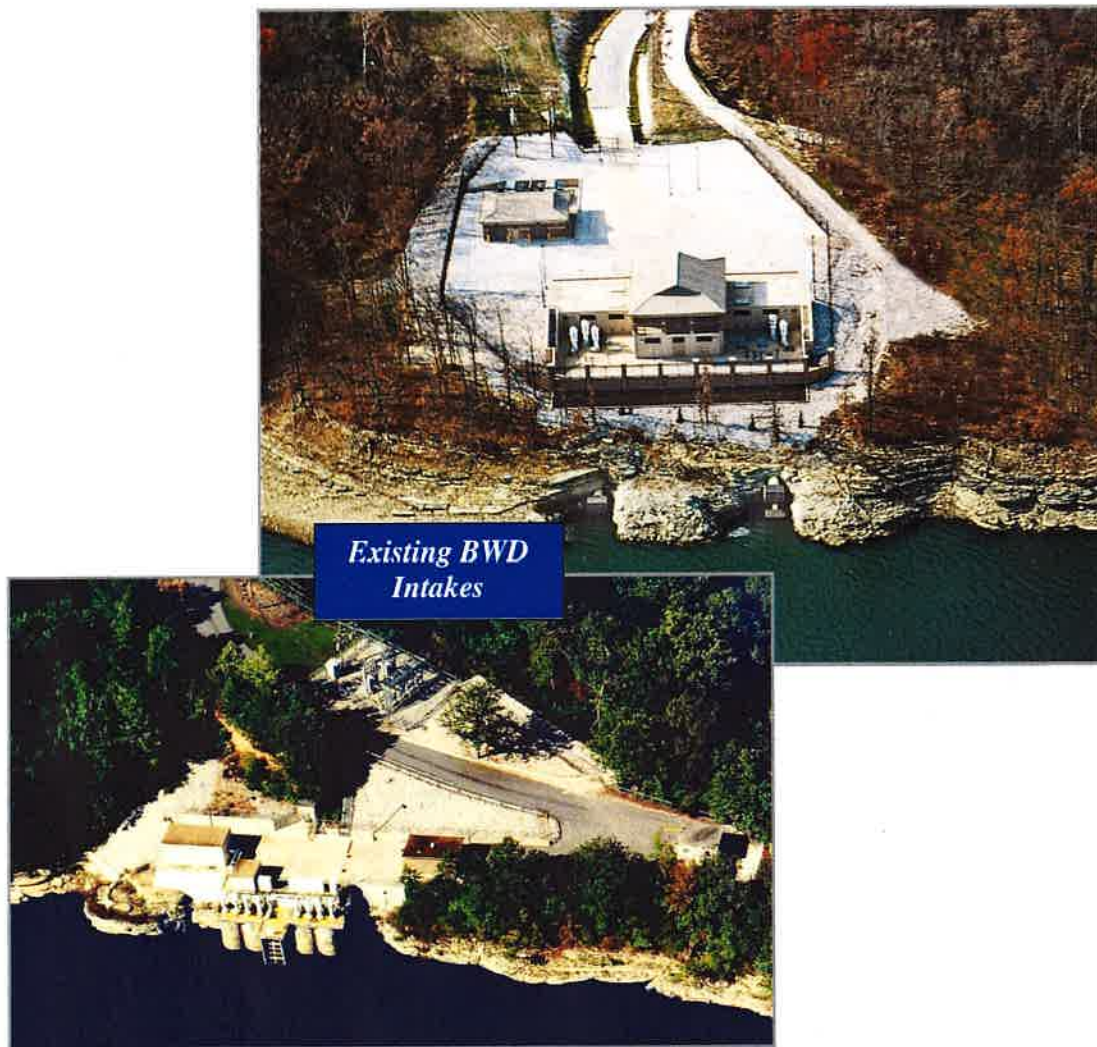
Water Supply – Beaver Water District

Water Supply Facilities

The City of Fayetteville purchases treated water from Beaver Water District (BWD), which currently operates and maintains the Joe M. Steele and Hardy W. Croxton Water Treatment Plants located east of Lowell, Arkansas.



Currently, BWD has an available capacity of approximately 140-MGD for its customers, which also include the cities of Springdale, Rogers and Bentonville. According to the BWD Master Plan Study report, the total capacity of 140-MGD should meet the projected maximum day water demands for the customers through 2031. Based on the report, a 40-MGD plant expansion will be required by the year 2031 to meet the future demands of the region. Furthermore, it is understood that BWD will continue to upgrade its supply facilities as dictated by future growth in the area.



Water Transmission Facilities

Currently, BWD conveys water to its customer cities directly from the water treatment facility through water transmission pipes owned and maintained by the customer cities. BWD conveys water to the Fayetteville distribution system through two water transmission lines, a 36-inch and a 42-inch. According to a study commissioned by Beaver Water District, the total capacity of the current transmission lines is approximately 54-MGD. The two transmission lines currently enter the Fayetteville system in the vicinity of George Anderson Road and Zion Road in the northeast section of the system.

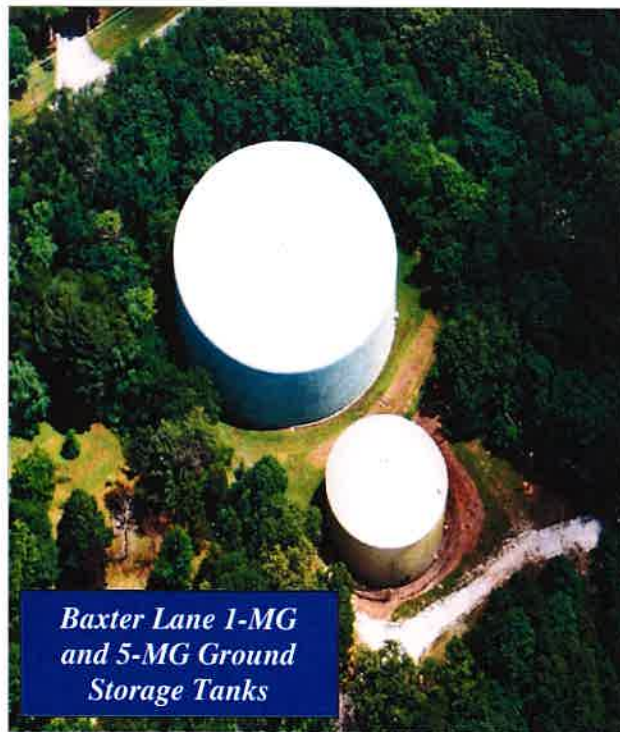
Fayetteville Distribution System

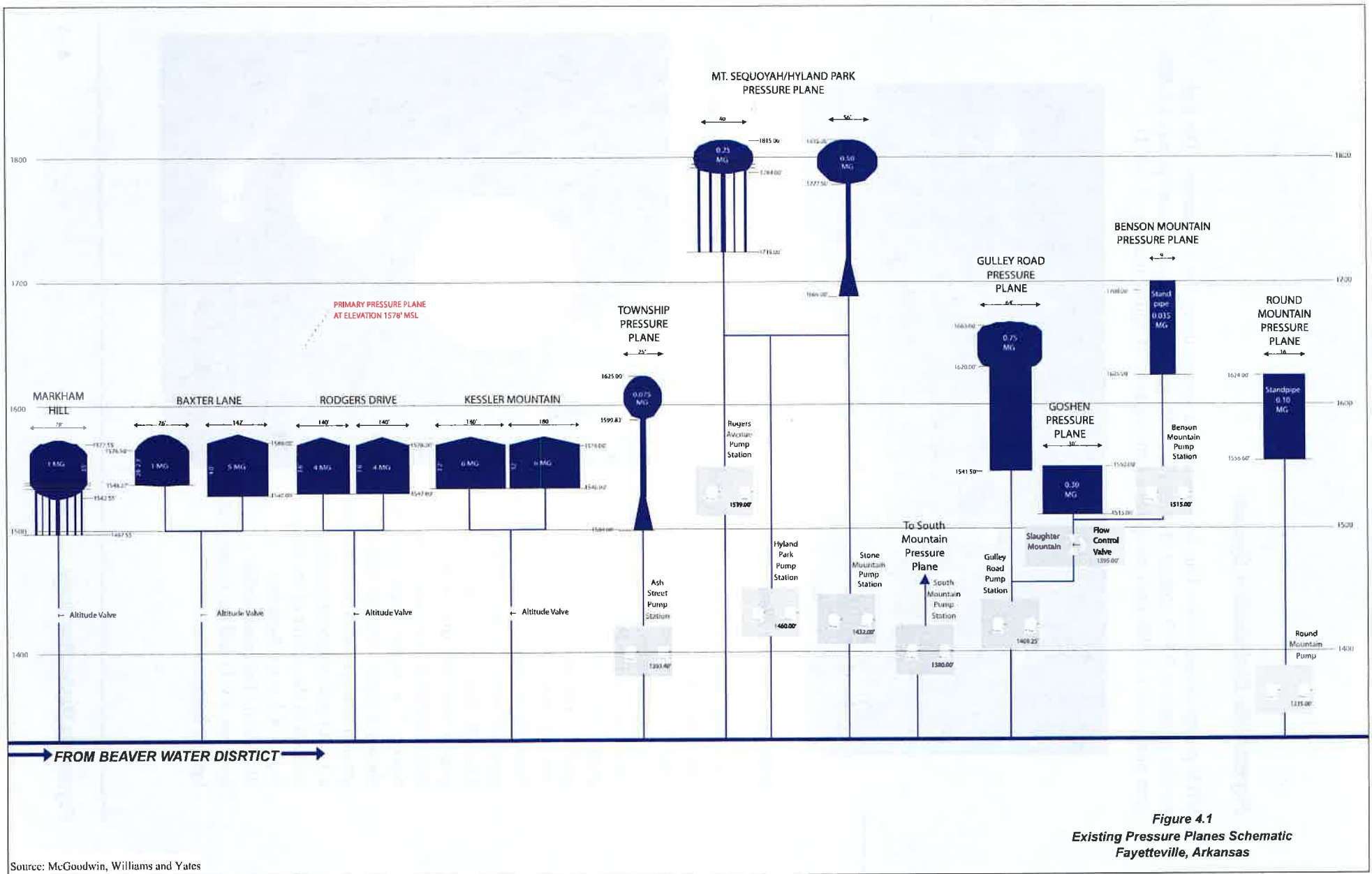
BWD pumps treated water into the Fayetteville system using five (5) pumps. The high service pumps at BWD consist of three (3) 9,600-gpm (gallons per minute) pump, a 5,800-gpm pump and a 3,800-gpm pump for a firm capacity of approximately 41-MGD.



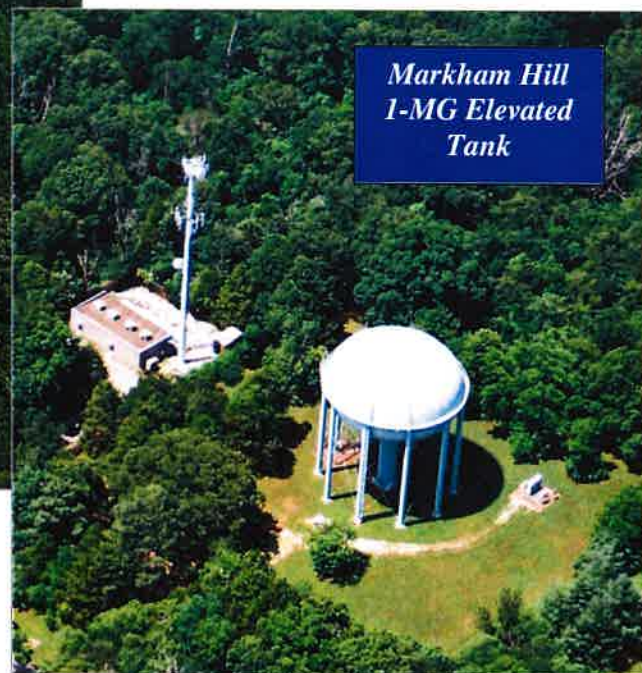
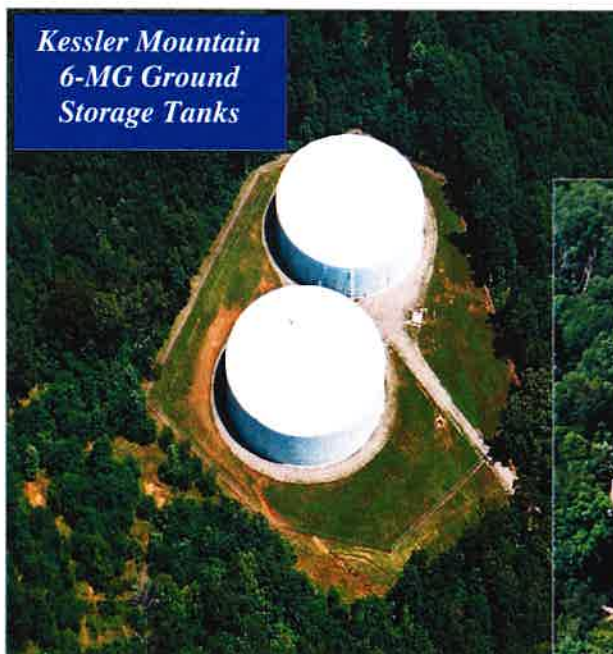
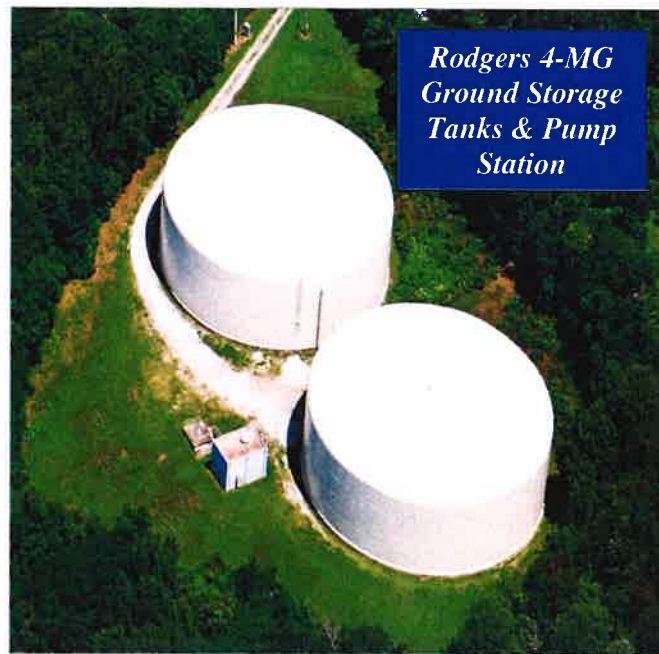
Primary Pressure Plane

Currently, BWD monitors the ground storage tanks of Kessler Mountain, Rodgers Drive and Baxter Lane through the Fayetteville SCADA system and pumps water to Fayetteville according to the water levels in the tanks. These tanks are all located in the Primary pressure plane which has a hydraulic gradient elevation of 1,578-feet msl (mean sea level). The Fayetteville distribution system has eight (8) main pressure planes and four (4) relatively small pressure planes which are discussed in more detail within this section of the report. The Baxter Lane tank site, shown at right, contains two (2) ground storage tanks, a 5-MG and a 1-MG and is approximately located in the center of the City. Figure 4.1 is a schematic illustrating the relationship between BWD and the Fayetteville system infrastructure.



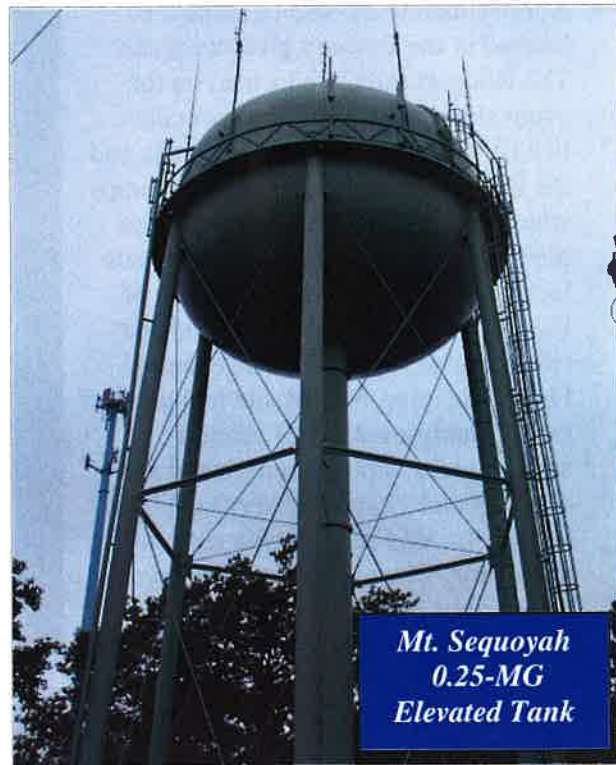


Approximately 27-MG of storage is located in the Primary pressure plane. The Rodgers tank site located on the south side of Mt. Sequoyah contains two (2) 4-MG ground storage tanks and the Rodgers pump station which pumps water into the Mt. Sequoyah pressure plane. The Kessler Mountain tank site located in the southwestern region of Fayetteville currently accommodates two (2) 6-MG ground storage tanks. Future planning for this site includes two (2) additional 6-MG ground storage tanks, a pump station and an elevated tank that could serve the higher elevated areas in this region if necessary. The elevated tank shown below right is located off Markham Street and east of I-49. The Markham Hill tank has a capacity of 1-MG.



Mt. Sequoyah Pressure Plane

The Mt. Sequoyah pressure plane has an overflow elevation of 1,815-feet msl. This gradient is set by the Mt. Sequoyah elevated tank located on Skyline Drive and the Canterbury elevated tank located on Canterbury Road. The Mt. Sequoyah pressure plane has 0.75-MG of total storage - the Mt. Sequoyah elevated tank has a capacity of 0.25-MG and the Canterbury elevated tank has a capacity of 0.5-MG. The tanks and the pressure plane are fed from the Primary pressure plane through three points. One feed point is the Rodgers pump station located at the Rodgers ground storage tank site. The photograph below shows the existing Rodgers Pump Station.

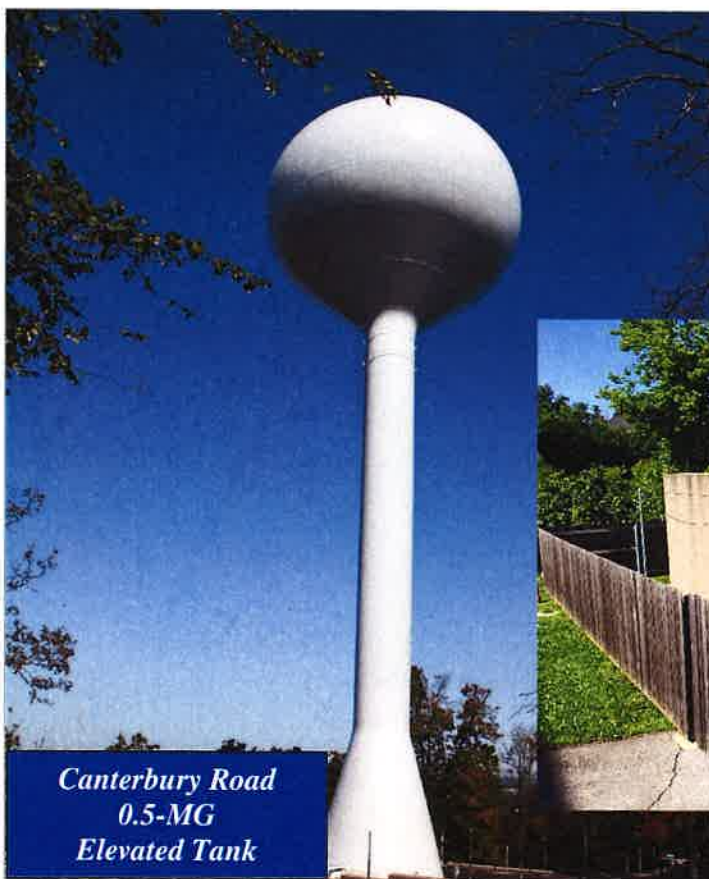




*Hyland Park
Pump Station*

Another point of entry into the Mt. Sequoyah pressure plane is located on Hwy. 265 at the Hyland Park pump station. This pump station is used primarily during peak demand times to help supply water to the residents of Hyland Park Subdivision and Sherwood Forest Estates.

The elevated tank located on Canterbury Road has been in operation since June 2011. The tank, which has a storage capacity of 0.5-MG, operates within the Mt. Sequoyah pressure plane and has an overflow elevation of 1,815-msl. The Canterbury tank primarily receives water from the Stone Mountain pump station, which is located south of the tank in the existing Stone Mountain subdivision.



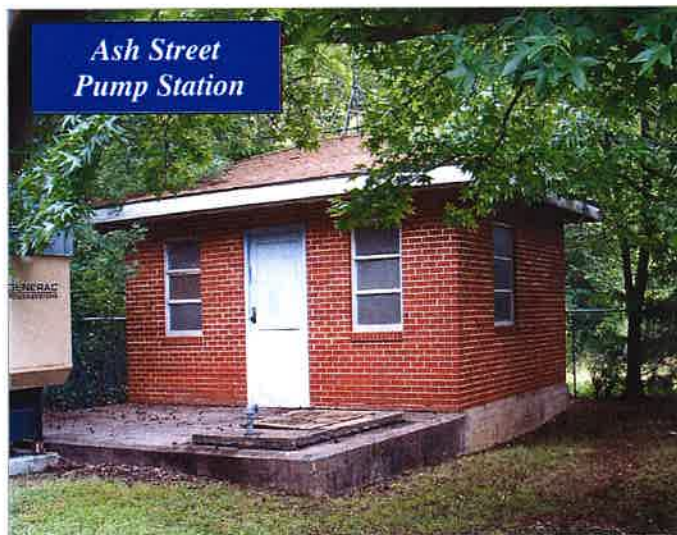
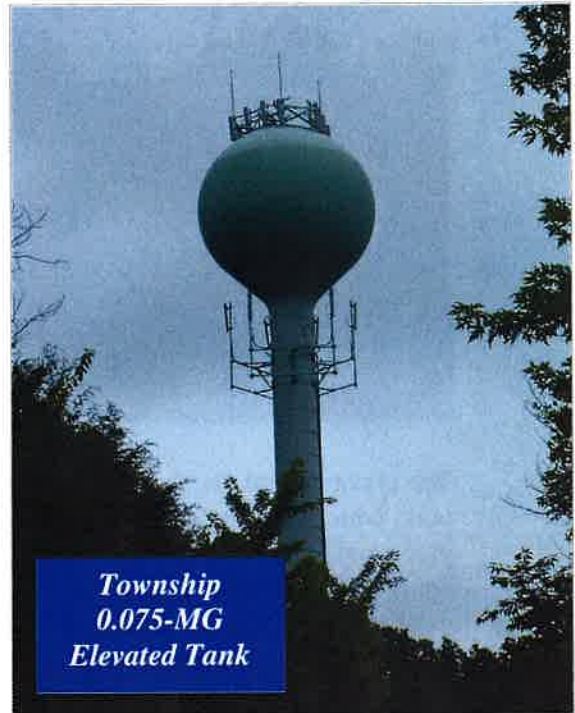
*Canterbury Road
0.5-MG
Elevated Tank*



*Stone Mountain
Pump Station*

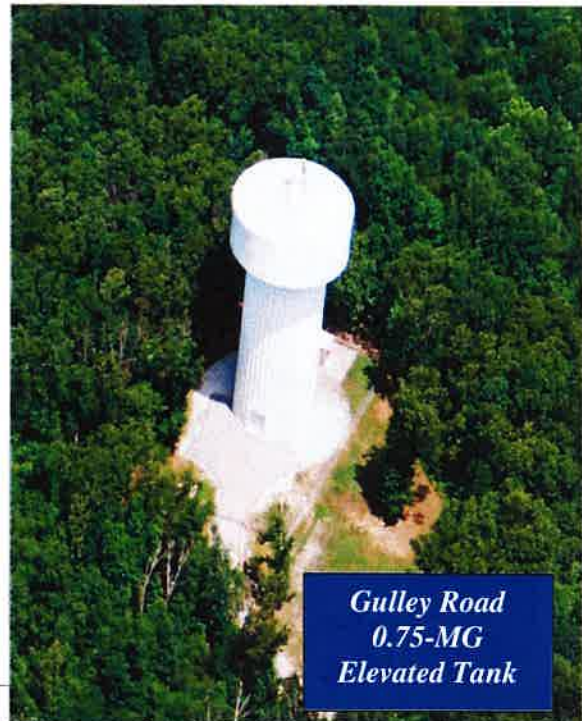
Township Pressure Plane

The Township pressure plane is supplied water from the Primary pressure plane through the Ash Street pump station. The Township Tank, which is located north of Township Street, has an overflow elevation of 1,625-feet msl and is the control for the pump station. The tank has a capacity of 0.075-MG. The photograph below shows the existing Ash Street pump station.

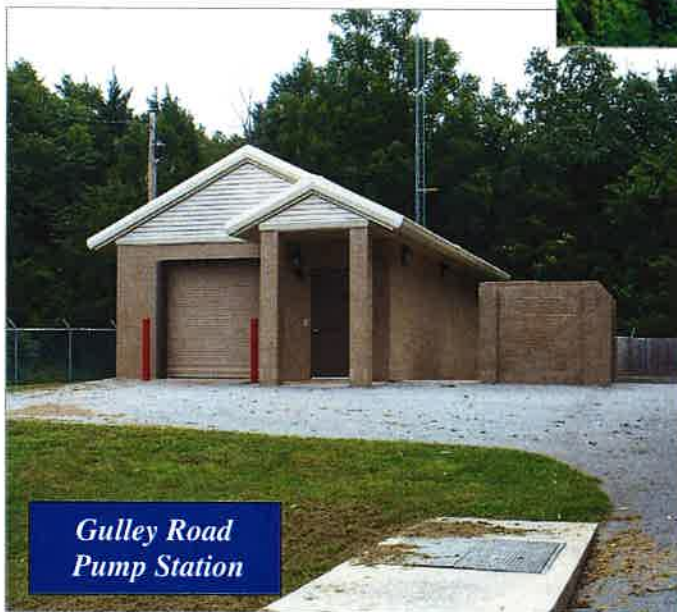


Gulley Pressure Plane

The Gulley pressure plane is located in the eastern region of Fayetteville and is supplied water by the Primary pressure plane. The Gulley Road tank has a capacity of 0.75-MG and an overflow elevation of 1,660-feet msl and is located on Gulley Road. Water is supplied to the tank and the pressure plane through the Gulley Road pump station. The station consists of three pumps and is also located north of the tank on Gulley Road.



*Gulley Road
0.75-MG
Elevated Tank*



*Gulley Road
Pump Station*

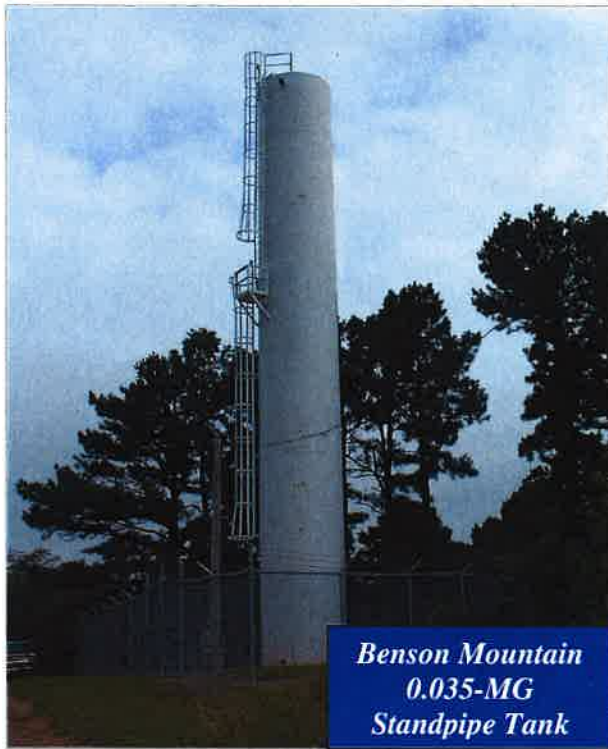
Goshen Pressure Plane



The Goshen pressure plane is located in the eastern most region of the Fayetteville water system. The pressure plane primarily consists of the residents that live in the community of Goshen. The pressure plane receives water from the Gulley pressure plane through a control valve that is approximately located at the base of Slaughter Mountain on Hwy. 45. The pressure plane has a hydraulic gradient elevation of 1,550-feet msl. This gradient is set by the Goshen tank, which has a capacity of 0.3-MG and is located on Fire Tower Road.



Benson Mountain Pressure Plane

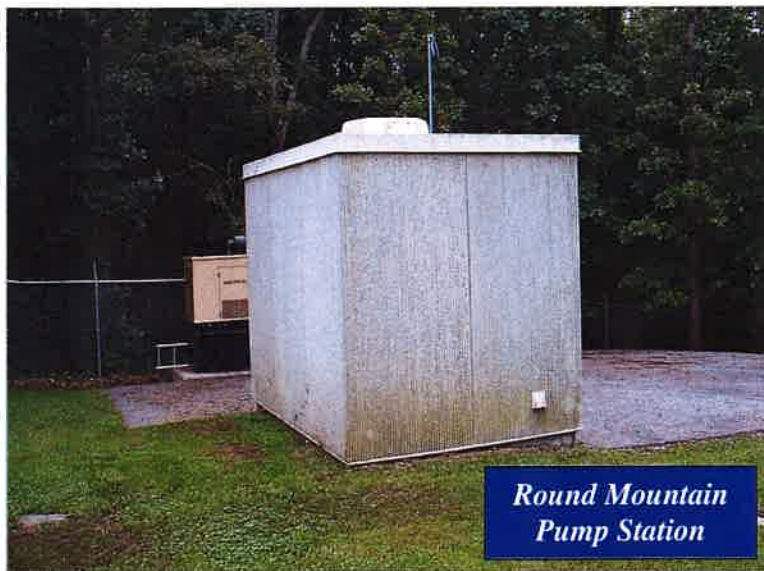
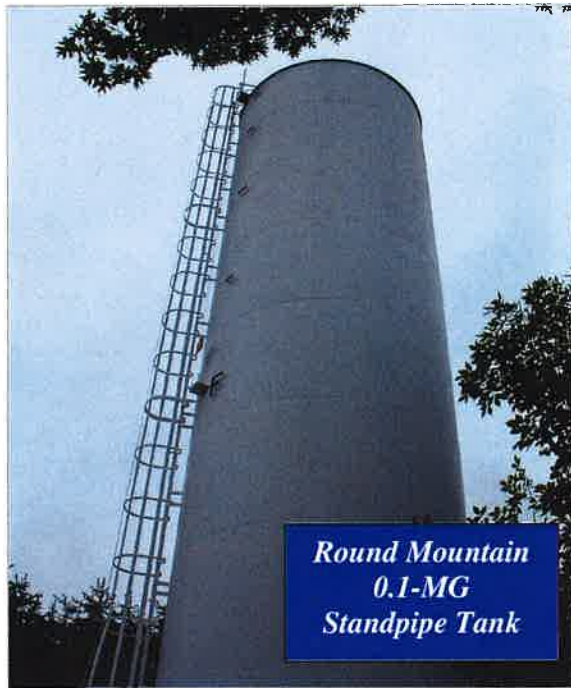


The Benson Mountain pressure plane is located east of the Goshen tank and is fed from the Goshen pressure plane through the Benson Mountain pump station which is located on the Goshen tank site. The pump station supplies water to the Benson Mountain standpipe tank, which has a capacity of 0.035-MG and an overflow elevation of 1,700-feet msl.



Round Mountain Pressure Plane

The Round Mountain pressure plane consists of a 0.1-MG standpipe tank. The tank is located on Round Mountain Road in the southeast region of the Fayetteville water service area, and has an overflow elevation of 1,624-feet msl. The pressure plane is supplied water from the Primary pressure plane through the Round Mountain pump station, which is located on Lake Sequoyah Drive.



South Mountain Pressure Plane

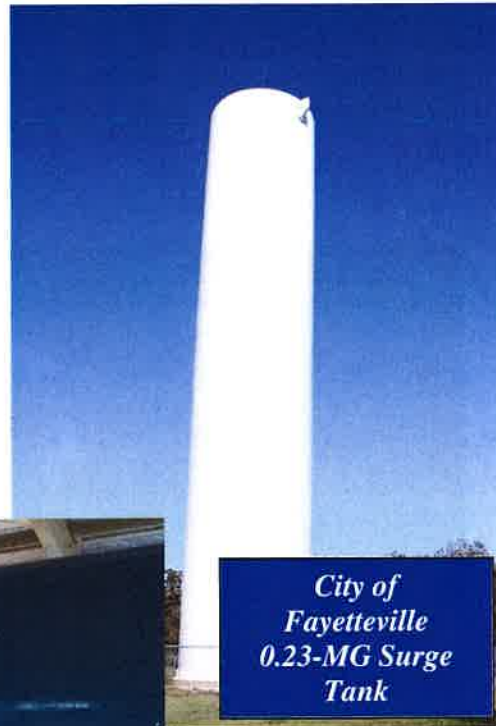
The South Mountain pressure plane is located in south Fayetteville off South School Avenue. The pressure plane does not contain a storage tank and receives water from the Primary pressure plane through the South Mountain pump station. The pump station, located on 24th Street, is shown below. The station consists of four pumps. The pump station must run constantly to maintain water supply and pressure throughout the South Mountain pressure plane.



Fayetteville Surge Tanks

The surge tank, located on Fitzgerald Mountain in Springdale, has a capacity of approximately 0.23-MG. The tank functions as a buffer for the operation of the high service pumps located at Beaver Water District (shown at right).

In April 2017, a new pressurized surge tank was constructed by Beaver Water District due to a recent line break on Fayetteville's existing 42-inch transmission line. The new tank was installed at the high service pump station located at the BWD plant site. The tank has approximately a 9,800 gallon capacity and assists in maintaining maximum surge pressures in the 42-inch transmission line to less than or equal to the 250-psi allowable sure pressure of the line.



*City of
Fayetteville
0.23-MG Surge
Tank*



*BWD
9,800 GAL Pressurized
Surge Tank for
Fayetteville*

Each of the pressure planes, except for the Primary and Goshen, are fed by pump stations that pump water from the Primary pressure plane. Figure 4.2 illustrates the City of Fayetteville's pressure planes, and shows ten (10) of the twelve (12) pressure plane service areas. The Blue Springs and Round Mountain Jet Pump pressure planes serve a minimal number of customers and are within the Goshen and Round Mountain pressure planes, respectively.

Distribution System Piping

The existing Fayetteville system has approximately 744 miles of water piping, which includes the 36-inch and 42-inch transmission lines from Beaver Water District. The distribution lines range in size from 1-inch in diameter to 42 inches. Table 4.1 shows the approximate lengths and material of each pipe diameter in the existing Fayetteville system.

TABLE 4.1
Distribution System Piping

Diameter (inches)	CI	DI	AC	PVC	Galv	PCCP	Length (miles)
2.5 or less	42	0	0	48	12	0	102
3	0	0	0	13	0	0	13
4	11	0	5	29	0	0	45
6	59	5	31	90	0	0	185
8	43	11	8	208	0	0	270
10	2	0	0	1	0	0	3
12	17	8	1	33	0	0	59
14	2	0	0	0	0	0	2
16	6	0	0	0	0	0	6
18	0	0	0	8	0	0	8
20	0.2	0	0	0	0	0	0.2
24	4	3	0	6	0	0	13
30	1	2	0	0	0	0	3
36	0	17	0	1	0	7	25
42	0	0	0	0	0	10	10
Total	187	46	45	437	12	17	744

Fayetteville currently sells water to three bulk sale entities, West Fork, Elkins and Mt. Olive Water Association. West Fork and Elkins are each served through one metering station and Mt. Olive is served through two.

Fayetteville also serves the cities of Farmington, Greenland, Goshen and a small area of Johnson. These four cities waterlines are owned and operated by the City of Fayetteville. The cities do not have metering stations and the customers served are considered part of the customer base for the City of Fayetteville.

The original hydraulic water model of the Fayetteville system was created in 1996 for a Master Plan Study that was performed by MWY. Since that time, MWY has updated the Master Plan in 2002 and most recently in 2011. In 2015, the existing 2011 hydraulic model was converted, by others, from the H2ONET software to the GIS (geographic information system) based Infowater (product of Innovyze, Inc.), which the City has been utilizing for various system analyses.

5.1 Calibration and Verification of Model

The first step of the Master Plan consisted of reviewing and updating the existing hydraulic model based upon the City's GIS to reflect the current distribution system. Once completed, existing average and maximum day demands were placed into the model at the approximate location where the demands occur in the system through a process called geocoding. Using Arc View version 10.4 software, geocoding was accomplished by obtaining individual account usage files from city water billing records and matching them to the exact locations in the City's street centerline geo-reference file.

Over a four-day period in February and March 2017, the Fayetteville water department staff and MWY conducted sixty-eight (68) static pressure tests and fourteen (14) flow tests at different locations throughout the City of Fayetteville's water service area. Table 5.1.1 and 5.1.2 sets out the dates, times, locations and recorded data from the field pressure and flow tests performed in the water service area. The tables also list the subsequent pressure or flow as measured in the hydraulic model for each location. Referring to Table 5.1.1, the average deviation of modeled pressures from field pressures was approximately 3.15-percent, and approximately 14.51-percent for the flow tests, which is shown in Table 5.1.2. To duplicate actual steady state conditions as close as possible for these specific dates, SCADA system data records on tank levels and pumps in operation were obtained from the City. Flow data for the City of Fayetteville was obtained from BWD records.

Diurnal demand curves were also created and added to the hydraulic model for the average and maximum day. Diurnal demand curves are an illustration of how system demands change each hour over a given day. The average day used in the model occurred in June 2015 with the largest maximum day recorded occurring in August 2011. Diurnals were established by reviewing water usage records from the year 2011 to present. Once these demand days were determined, existing conditions could be modeled by obtaining 1-minute data from the City as well as BWD. This information included tank levels and pump station flows for the Fayetteville system along with flows from the high service pumps located at BWD.

TABLE 5.1.1
Fayetteville Steady State Field Pressure Test Results
Water Distribution System Model Verification

I.D.	Date	Time	BWD High Service Pump (gpm)	Gully Road Pump Station	State Min. Pump Station	Roberts Pump Station	South Min. Pump Station	Ash Street Pump Station	Round Min. Pump Station	Goshen Pump Station	Sunrise Min. Pump Station	Baxter S-MG Tank Level (ft)	Roberts Tank Level (ft)	Kessler Tank Level (ft)	Markham Tank Level (ft)	Mt. Tank Level (ft)	Canterbury Tank Level (ft)	Township Tank Level (ft)	Gulley Road Tank Level (ft)	Goshen Tank Level (ft)	Dennison Tank Level (ft)	Houng Min. Tank Level (ft)	Location Description	Pressure Plane	Field Pressure (psi)	Model Node	Elevation (ft)	Model Pressure (psi)	Actual Difference (psi)	Pressure Percent Deviation
1	2/13/2017	8:44 AM	10,624.60	OFF	ON	OFF	ON	ON	OFF	OFF	ON	23.1	24.7	24.6	23.8	20.9	27.1	20.4	29.5	29.4	56.0	34.2	West Trp. (Wheeler Pk Station)	Primary	199	FH12246	1,111	200.73	-1.73	0.87%
2		8:52 AM	10,672.50	OFF	ON	OFF	ON	ON	OFF	OFF	ON	23.1	20.7	24.6	23.4	20.9	27.6	24.0	25.3	29.3	46.0	58.8	W. Walking Sack St.	Primary	144	FH03589	1,246	152.15	-1.85	1.29%
3		9:11 AM	10,655.80	OFF	ON	OFF	ON	ON	OFF	OFF	ON	23.1	29.5	24.8	23.4	20.9	27.9	24.3	25.0	29.3	59.3	58.0	W. Pennington St.	Primary	149	FH02118	1,235	147.27	-1.73	1.16%
4		9:28 AM	10,948.40	OFF	ON	OFF	ON	ON	OFF	OFF	ON	23.1	29.6	24.8	23.0	20.7	29.4	23.9	24.1	29.1	67.7	57.6	W. Tullum Ln.	Primary	140	FH02874	1,232	146.66	-0.34	0.21%
5		10:15 AM	10,940.70	OFF	ON	OFF	ON	ON	OFF	OFF	ON	22.9	29.5	24.8	23.5	20.5	29.8	25.2	24.1	24.6	55.2	56.0	Dayton Rd. & Salem Rd.	Primary	150	FH10174	1,219	150.37	-0.37	0.25%
6		10:29 AM	10,872.40	ON	OFF	ON	OFF	ON	OFF	OFF	ON	22.9	29.5	24.8	23.5	20.5	29.8	22.1	24.7	24.9	55.5	55.5	Dayton Ave. & Avalon St.	Primary	158	FH03131	1,209	149.84	-1.04	0.79%
7		10:48 AM	10,874.00	ON	OFF	ON	OFF	ON	OFF	ON	ON	22.8	29.5	24.6	23.5	20.5	29.7	23.8	23.7	23.1	64.8	55.0	Meadow Creek Circle	Primary	137	FH03431	1,207	145.35	-4.35	3.60%
8		11:25 AM	10,864.60	ON	OFF	ON	OFF	ON	OFF	ON	ON	22.8	29.4	24.6	23.4	20.1	29.2	23.2	23.4	21.4	64.2	57.2	Lansdown Rd.	Primary	138	FH02172	1,208	145.22	-7.34	5.98%
9		1:01 PM	10,881.20	OFF	OFF	ON	OFF	ON	OFF	OFF	ON	23.0	29.6	24.6	23.9	19.4	28.1	20.0	28.4	29.7	63.5	61.7	Overland Loop & Blaise Station	Primary	153	FH10821	1,221	162.71	-9.71	7.96%
10		1:18 PM	10,855.80	OFF	OFF	ON	OFF	ON	OFF	OFF	ON	23.0	29.6	24.6	23.6	19.2	27.9	19.7	29.2	29.3	57.2	61.2	N. Karyn Ave.	Township	97	FH10597	1,208	163.11	-2.11	1.61%
11		1:43 PM	10,872.50	OFF	OFF	ON	OFF	ON	OFF	OFF	ON	23.0	29.6	24.6	24.0	19.2	27.7	21.8	28.1	29.2	57.2	60.7	Overland St. & Broadway	Township	81	FH11061	1,400	163.41	-0.81	0.58%
12		2:03 PM	10,846.30	OFF	ON	OFF	ON	OFF	OFF	OFF	ON	23.1	29.6	24.7	23.9	20.3	27.4	19.2	29.7	29.5	60.4	59.6	Lindbrook's Edge Hill	Primary	85	FH11616	1,417	167.61	-1.85	1.29%
13		2:35 PM	10,805.60	OFF	ON	OFF	ON	OFF	OFF	OFF	ON	23.3	29.6	24.7	24.1	21.5	27.9	19.1	29.7	28.9	62.1	58.2	E. Cambridge Pl.	W. Goshen	128	FH11017	1,529	162.89	-1.89	1.24%
14		2:49 PM	10,811.00	OFF	ON	OFF	ON	OFF	OFF	OFF	ON	23.3	29.6	24.7	24.0	21.7	27.3	19.1	29.5	28.1	62.0	59.1	Tanawana Trail (The Glens)	Primary	118	FH11544	1,309	149.02	-1.85	0.69%
15		3:08 PM	10,835.30	OFF	ON	OFF	ON	OFF	OFF	OFF	ON	23.3	29.6	24.7	24.0	21.7	27.9	19.1	29.4	27.7	62.0	59.1	Reservoir Trail	W. Goshen	96	FH11208	1,579	159.08	-0.88	0.57%
16		3:25 PM	10,813.30	OFF	ON	OFF	ON	OFF	OFF	OFF	ON	23.3	29.6	24.7	24.0	21.7	27.9	19.1	29.2	27.5	62.0	59.1	W. Shirley Dr.	W. Goshen	45	FH11418	1,192	165.39	-0.39	0.33%
17		4:14 PM	10,825.10	OFF	ON	ON	ON	ON	OFF	OFF	ON	23.4	29.6	24.8	24.0	20.9	27.9	19.1	24.0	27.5	60.4	56.3	W. Kentucky Dr.	Primary	141	FH10112	1,219	146.21	-5.24	4.29%
18		5:16 PM	10,797.40	ON	OFF	ON	ON	ON	ON	ON	ON	23.3	29.9	24.8	24.0	20.2	27.1	21.5	23.0	29.7	59.6	55.9	Pennington Rd.	Primary	139	FH11053	1,226	148.89	-3.89	3.14%
19		5:36 PM	10,805.60	ON	OFF	ON	ON	ON	ON	ON	ON	23.3	29.9	24.8	24.0	20.2	27.1	21.5	23.0	29.7	59.6	55.9	Pennington Rd.	Primary	139	FH11053	1,226	148.89	-3.89	3.14%
20		5:59 AM	4,517.34	ON	ON	ON	ON	ON	ON	ON	ON	23.3	29.9	24.8	24.0	20.2	27.1	21.5	23.0	29.7	59.6	55.9	Pennington Rd.	Primary	139	FH11053	1,226	148.89	-3.89	3.14%
21	2/14/2017	8:59 AM	4,517.34	ON	ON	ON	ON	ON	ON	ON	ON	23.3	29.9	24.8	24.0	20.2	27.1	21.5	23.0	29.7	59.6	55.9	Pennington Rd.	Primary	139	FH11053	1,226	148.89	-3.89	3.14%
22		9:40 AM	4,517.34	ON	ON	ON	ON	ON	ON	ON	ON	23.3	29.9	24.8	24.0	20.2	27.1	21.5	23.0	29.7	59.6	55.9	Pennington Rd.	Primary	139	FH11053	1,226	148.89	-3.89	3.14%
23		9:57 AM	4,517.34	ON	ON	ON	ON	ON	ON	ON	ON	23.3	29.9	24.8	24.0	20.2	27.1	21.5	23.0	29.7	59.6	55.9	Pennington Rd.	Primary	139	FH11053	1,226	148.89	-3.89	3.14%
24		10:02 AM	4,517.34	ON	ON	ON	ON	ON	ON	ON	ON	23.3	29.9	24.8	24.0	20.2	27.1	21.5	23.0	29.7	59.6	55.9	Pennington Rd.	Primary	139	FH11053	1,226	148.89	-3.89	3.14%
25		10:23 AM	4,517.34	ON	ON	ON	ON	ON	ON	ON	ON	23.3	29.9	24.8	24.0	20.2	27.1	21.5	23.0	29.7	59.6	55.9	Pennington Rd.	Primary	139	FH11053	1,226	148.89	-3.89	3.14%
26		10:34 AM	4,517.34	ON	ON	ON	ON	ON	ON	ON	ON	23.3	29.9	24.8	24.0	20.2	27.1	21.5	23.0	29.7	59.6	55.9	Pennington Rd.	Primary	139	FH11053	1,226	148.89	-3.89	3.14%
27		10:47 AM	4,517.34	ON	ON	ON	ON	ON	ON	ON	ON	23.3	29.9	24.8	24.0	20.2	27.1	21.5	23.0	29.7	59.6	55.9	Pennington Rd.	Primary	139	FH11053	1,226	148.89	-3.89	3.14%
28		10:58 AM	4,517.34	ON	ON	ON	ON	ON	ON	ON	ON	23.3	29.9	24.8	24.0	20.2	27.1	21.5	23.0	29.7	59.6	55.9	Pennington Rd.	Primary	139	FH11053	1,226	148.89	-3.89	3.14%
29		11:02 AM	4,517.34	ON	ON	ON	ON	ON	ON	ON	ON	23.3	29.9	24.8	24.0	20.2	27.1	21.5	23.0	29.7	59.6	55.9	Pennington Rd.	Primary	139	FH11053	1,226	148.89	-3.89	3.14%
30		11:27 AM	4,517.34	ON	ON	ON	ON	ON	ON	ON	ON	23.3	29.9	24.8	24.0	20.2	27.1	21.5	23.0	29.7	59.6	55.9	Pennington Rd.	Primary	139	FH11053	1,226	148.89	-3.89	3.14%
31		11:37 AM	4,517.34	ON	ON	ON	ON	ON	ON	ON	ON	23.3	29.9	24.8	24.0	20.2	27.1	21.5	23.0	29.7	59.6	55.9	Pennington Rd.	Primary	139	FH11053	1,226	148.89	-3.89	3.14%
32		1:35 PM	4,517.34	ON	ON	ON	ON	ON	ON	ON	ON	23.3	29.9	24.8	24.0	20.2	27.1	21.5	23.0	29.7	59.6	55.9	Pennington Rd.	Primary	139	FH11053	1,226	148.89	-3.89	3.14%
33		2:02 PM	4,517.34	ON	ON	ON	ON	ON	ON	ON	ON	23.3	29.9	24.8	24.0	20.2	27.1	21.5	23.0	29.7	59.6	55.9	Pennington Rd.	Primary	139	FH11053	1,226	148.89	-3.89	3.14%
34		2:47 PM	4,517.34	ON	ON	ON	ON	ON	ON	ON	ON	23.3	29.9	24.8	24.0	20.2	27.1	21.5	23.0	29.7	59.6	55.9	Pennington Rd.	Primary	139	FH11053	1,226	148.89	-3.89	3.14%
35		3:16 PM	4,517.34	ON	ON	ON	ON	ON	ON	ON	ON	23.3	29.9	24.8	24.0	20.2	27.1	21.5	23.0	29.7	59.6	55.9	Pennington Rd.	Primary	139	FH11053	1,226	148.89	-3.89	3.14%
36		3:27 PM	4,517.34	ON	ON	ON	ON	ON	ON	ON	ON	23.3	29.9	24.8	24.0	20.2	27.1	21.5	23.0	29.7	59.6	55.9	Pennington Rd.	Primary	139	FH11053	1,226	148.89	-3.89	3.14%
37		3:51 PM	4,517.34	ON	ON	ON	ON	ON	ON	ON	ON	23.3	29.9	24.8	24.0	20.2	27.1	21.5	23.0	29.7	59.6	55.9	Pennington Rd.	Primary	139	FH11053	1,226	148.89	-3.89	3.14%
38		4:06 PM	4,517.34	ON	ON	ON	ON	ON	ON	ON	ON	23.3	29.9	24.8	24.0	20.2	27.1	21.5	23.0	29.7	59.6	55.9	Pennington Rd.	Primary	139	FH11053	1,226	148.89	-3.89	3.14%
39		4:29 PM	4,517.34	ON	ON	ON	ON	ON	ON	ON	ON	23.3	29.9	24.8	24.0	20.2	27.1	21.5	23.0	29.7	59.6	55.9	Pennington Rd.	Primary	139	FH11053	1,226	148.89	-3.89	3.14%
40		4:58 PM	4,517.34	ON	ON	ON	ON	ON	ON	ON	ON	23.3	29.9	24.8	24.0	20.2	27.1	21.5	23.0	29.7	59.6	55.9	Pennington Rd.	Primary	139	FH11053	1,226	148.89	-3.89	3.14%
41		5:12 PM	4,517.34	ON	ON	ON	ON	ON	ON	ON	ON	23.3	29.9	24.8	24.0	20.2	27.1	21.5	23.0	29.7	59.6	55.9	Pennington Rd.	Primary	139	FH11053	1,226	148.89	-3.89	3.14%
42		5:23 PM	4,517.34	ON	ON	ON	ON	ON	ON	ON	ON	23.3	29.9	24.8	24.0	20.2	27.1	21.5	23.0	29.7	59.6	55.9	Pennington Rd.	Primary	139	FH11053	1,226	148.89	-3.89	3.14%
43		5:43 PM	4,517.34	ON	ON	ON	ON	ON	ON	ON	ON	23.3	29.9	24.8	24.0	20.2	27.1	21.5	23.0	29.7	59.6	55.9	Pennington Rd.	Primary	139	FH11053	1,226	148.89	-3.89	3.14%
44		5:52 PM	4,517.34	ON	ON	ON	ON	ON	ON	ON	ON	23.3	29.9	24.8	24.0	20.2	27.1	21.5	23.0	29.7	59.6	55.9	Pennington Rd.	Primary	139	FH11053	1,226	148.89	-3.89	3.14%
45	2/15/2017	8:51 AM	10,806.30	ON	ON	OFF	ON	ON	OFF	OFF	ON	24.4	34.4	25.9	24.8	20.1	29.9	20.9	24.0	29.3	59.6	55.9	Pennington Rd.	Primary	139	FH11053	1,226	148.89	-3.89	3.14%
46		9:05 AM	10,806.30	ON	ON	OFF	ON	ON	OFF	OFF	ON	24.4	34.4	25.9	24.8	20.1	29.9	20.9	24.0	29.3	59.6	55.9	Pennington Rd.	Primary	139	FH11053	1,226	148.		

TABLE 5.1.2

Fayetteville Field Flow Test Results
Water Distribution System Model Verification

ID.	Date	Time	BWD High Service Pumps (gpm)	Gully Road Pump Station	Stump Mtn. Pump Station	Rodgers Pump Station	South Mtn. Pump Station	Ash Street Pump Station	Round Mtn. Pump Station	Goshen Pump Station	Sunrise Mtn. Pump Station	Darwin S-MG Tank Level (ft)	Rodgers Tank Levels (ft)	Kessler Tank Levels (ft)	Markham Hill Tank Level (ft)	Mt. Sequoyiah Tank Level (ft)	Canterbury Tank Level (ft)	Township Tank Level (ft)	Gully Road Tank Level (ft)	Goshen Tank Level (ft)	Benson Tank Level (ft)	Round Mtn. Tank Level (ft)	Location Description	Pressure Plane	Flow Test (gpm)	Field Pressure (psi)	Model Node & Fire Hydrant Number	Elevation (ft)	Model Pressure (psi)	Pressure Difference (psi)	Pressure Percent Deviation
1	2/13/2017	9:28 AM	10,948.40	OFF	ON	OFF	ON	ON	OFF	OFF	ON	32.1	29.6	24.6	23.0	20.7	28.4	21.9	24.3	30.1	65.7	57.8	W. Trillium Ln.	Primary	144	144	FH02874	1,232	148.66	-4.66	-3.24%
		9:44 AM	10,889.40	OFF	ON	OFF	ON	ON	OFF	OFF	ON	32.9	29.6	24.6	23.2	20.6	28.9	22.3	24.0	30.5	65.5	57.8	N. Trillium Ln.		141	141	FH12043	1,222	152.94	-11.94	-8.47%
2		10:48 AM	10,872.99	ON	ON	OFF	ON	OFF	ON	OFF	ON	32.8	29.5	24.6	23.5	20.4	29.7	21.8	23.7	32.1	64.8	55.9	Meadow Creek Circle	Primary	137	137	FH02431	1,257	145.35	-8.35	-6.09%
		11:02 AM	10,914.80	ON	ON	OFF	ON	OFF	ON	OFF	ON	32.8	29.5	24.6	23.5	20.3	29.5	21.5	24.2	31.8	64.8	55.8	Meadow Creek Circle		168	168	FH02432	1,255	110.25	-2.25	-2.08%
3		1:41 PM	10,872.90	OFF	OFF	OFF	ON	ON	OFF	OFF	ON	33.0	29.6	24.6	24.0	19.2	27.7	21.8	36.1	29.2	63.2	60.7	Overcrest St. & Briarwood	Township	91	91	FH11961	1,405	93.83	-8.83	-9.89%
		1:57 PM	10,839.30	OFF	OFF	OFF	ON	ON	OFF	OFF	ON	33.0	29.6	24.6	23.9	19.0	27.5	0.0	35.9	28.8	63.0	60.2	Overcrest St. & Hummingbird Ln.		41	41	FH11960	1,364	55.88	-14.88	-26.29%
4		3:25 PM	10,813.90	OFF	OFF	ON	OFF	OFF	OFF	OFF	ON	33.3	29.6	24.7	24.0	21.7	27.3	19.1	35.2	27.5	62.0	59.1	W. Skyline	Mt. Sequoyiah	45	45	FH14610	1,705	45.39	-0.39	-0.87%
		3:42 PM	10,822.10	OFF	OFF	ON	OFF	OFF	OFF	OFF	ON	33.4	29.7	24.7	24.0	21.7	27.3	19.1	35.0	27.3	62.0	59.1	W. Skyline		41	41	FH14611	1,709	40.8	0.20	0.49%
5	2/14/2017	2:52 PM	4,504.39	ON	OFF	OFF	ON	OFF	ON	ON	ON	31.0	28.7	25.7	22.9	20.8	29.1	18.2	37.3	31.5	60.8	55.3	South Spring Loop	Goshen	119	119	FH02964	1,300	111.84	-1.84	-0.95%
		2:15 PM	4,554.44	ON	OFF	OFF	ON	ON	ON	ON	ON	31.1	28.4	25.7	23.1	19.9	29.0	18.8	37.2	31.1	60.8	56.1	South Spring Loop & Knollwood Dr.		70	70	FH02964	1,300	58.15	11.85	16.90%
6		2:47 PM	4,562.69	ON	OFF	OFF	ON	ON	ON	ON	ON	30.8	28.2	25.5	22.5	19.7	27.7	19.8	37.8	30.9	60.9	56.1	Doyle Hamm Dr. & Gt Circle	Gully	55	55	FH03729	1,532	55.98	-0.98	-1.76%
		2:56 PM	4,532.94	ON	OFF	OFF	ON	ON	ON	ON	ON	30.8	28.0	25.5	22.6	19.6	27.9	19.1	37.0	31.3	60.9	56.8	Doyle Hamm Dr. & Maywood Rd.		50	50	FH03729	1,532	44.81	5.99	11.58%
7		4:20 PM	4,562.69	OFF	OFF	ON	ON	ON	ON	ON	ON	30.1	27.2	25.0	22.1	20.2	27.0	22.6	36.4	31.1	61.9	61.4	Parsons Ln.	Gully	171	171	FH12072	1,436	91.25	7.25	7.93%
		4:37 PM	4,532.94	OFF	OFF	ON	ON	OFF	ON	ON	ON	29.9	26.9	24.9	22.0	21.4	26.9	22.4	36.4	30.7	63.1	60.9	Parsons Ln. & Senter St.		24	24	FH12072	1,436	18.55	5.45	22.71%
8	2/15/2017	3:27 AM	10,881.20	ON	OFF	OFF	ON	OFF	ON	OFF	ON	34.4	31.8	25.8	24.6	25.8	30.0	22.9	35.1	31.5	68.2	56.2	S. Gentle Valley Dr.	Primary	148	148	FH14672	1,232	147.94	0.89	0.64%
		3:38 AM	10,921.00	ON	OFF	OFF	ON	OFF	ON	OFF	ON	34.4	31.1	25.8	24.7	25.4	29.9	21.9	35.6	31.3	68.1	56.8	S. Gentle Valley Dr.		113	113	FH14672	1,232	111.93	1.08	0.96%
9		11:13 AM	10,898.30	OFF	OFF	OFF	ON	OFF	OFF	OFF	ON	34.1	31.1	25.8	24.8	23.8	29.3	20.5	36.6	29.5	66.8	62.1	Foothills Dr.	Primary	160	160	FH14679	1,230	114.45	-0.45	-0.39%
		11:24 AM	10,940.20	OFF	OFF	OFF	ON	OFF	OFF	OFF	ON	34.1	31.1	25.8	24.9	23.6	29.2	20.3	36.4	29.3	66.6	61.8	Foothills Dr. & N. Galib Dr.		53	53	FH02344	1,306	15.94	37.06	69.92%
10		1:09 PM	10,889.40	OFF	OFF	OFF	ON	ON	OFF	OFF	ON	34.7	34.7	25.9	25.1	22.4	28.7	20.4	35.7	27.9	65.5	60.9	26th Cir. & 29th Cir.	South Mtn.	105	105	FH10460	1,515	105.48	-1.48	-1.41%
		1:19 PM	10,813.99	OFF	OFF	OFF	ON	ON	OFF	OFF	ON	34.7	31.3	25.9	25.2	21.9	28.3	22.0	34.3	28.5	65.2	59.9	26th Cir. & 29th Cir.		73	73	FH10460	1,515	72.98	0.02	0.03%
11		3:16 PM	10,847.50	ON	OFF	OFF	ON	OFF	OFF	OFF	ON	34.7	31.5	26.1	24.9	20.4	27.4	21.3	35.3	31.3	64.5	55.9	Tallgrass Dr.	Primary	132	132	FH10969	1,257	121.69	-1.69	-1.21%
		3:27 PM	10,864.69	ON	OFF	OFF	ON	OFF	OFF	OFF	ON	34.7	31.5	26.1	25.1	20.3	27.4	21.1	35.8	31.1	64.5	55.6	Tallgrass Dr.		75	75	FH10969	1,257	71.47	3.53	4.71%
12	3/30/2017	10:20 AM	4,571.43	ON	OFF	OFF	ON	OFF	OFF	OFF	ON	34.5	33.4	27.0	25.8	23.6	29.8	19.5	32.6	32.3	68.1	57.8	Cherokee Dr. & Seminole Ct.	Gully	91	91	FH02378	1,436	92.27	-1.27	-1.49%
		10:43 AM	4,571.43	ON	OFF	OFF	ON	OFF	OFF	OFF	ON	34.3	33.2	26.9	25.4	23.5	29.9	19.2	33.0	31.9	68.9	58.8	Cherokee Dr. & Hunter's Ridge		38	38	FH12064	1,426	31.46	6.54	17.21%
13		11:05 AM	4,590.48	ON	OFF	OFF	ON	OFF	OFF	OFF	ON	33.3	32.5	26.7	25.1	22.6	29.5	16.6	35.2	30.6	68.4	55.2	E. Talon Trl. & Sinclair Ave.	Primary	140	140	FH03486	1,254	139.02	0.98	0.70%
		11:44 AM	4,590.48	ON	OFF	OFF	ON	OFF	OFF	OFF	ON	33.3	32.5	26.7	24.9	22.5	29.4	16.6	35.6	30.6	68.0	55.0	Sinclair Ave.		81	81	FH02487	1,254	74.63	-6.37	-7.86%
14		1:52 PM	4,539.66	OFF	OFF	OFF	ON	ON	ON	OFF	ON	31.8	30.5	26.3	24.0	20.9	29.3	22.1	35.4	28.1	67.7	61.5	Lundy Place	Primary	128	128	FH11297	1,269	131.27	-3.27	-2.55%
		2:10 PM	4,546.03	OFF	OFF	OFF	ON	ON	ON	OFF	ON	31.8	30.5	26.2	24.1	20.8	29.1	23.0	36.0	27.8	67.2	62.0	Powerline Place & Leticia Ave.		79	79	FH11298	1,277	67.49	2.41	3.44%
Average Percent Deviation																										14.51%					

S = Static Pressure during Hydrant Flow
O = Residual Pressure during Hydrant Flow
FH = Hydrant Flow

5.2 Infrastructure Included in Model

The following is a breakdown of the infrastructure contained within the hydraulic model for the existing Fayetteville system:

- Approximately 13,850 pipe segments and 12,456 nodes
- Water Tanks

Tank	Pressure Plane	Tank Type	Overflow Elevation (ft)	Capacity (MG)
Baxter	Primary	Ground	1,578	1.00
Baxter	Primary	Ground	1,578	5.00
Rodgers	Primary	Ground	1,578	4.00
Rodgers	Primary	Ground	1,578	4.00
Markham	Primary	Elevated	1,578	1.00
Kessler Mtn.	Primary	Ground	1,578	6.00
Kessler Mtn.	Primary	Ground	1,578	6.00
Gulley	Gulley	Elevated	1,660	0.75
Goshen	Goshen	Ground	1,550	0.30
Mt. Sequoyah	Mt. Sequoyah	Elevated	1,815	0.25
Canterbury	Mt. Sequoyah	Elevated	1,815	0.50
Township	Township	Elevated	1,625	0.075
Benson Mtn.	Benson Mtn.	Stand Pipe	1,700	0.035
Round Mtn.	Round Mtn.	Stand Pipe	1,624	0.10
Surge	Primary	Stand Pipe	1,698	0.25

- Pump Stations

Pump Station	Pressure Plane	No. of Pumps	Firm Capacity (gpm)
Ash Street	Township	2	200
South Mtn.	South Mtn.	4	400
Sunrise Mtn.	Sunrise Mtn.	2	40
Gulley Road	Gulley	3	1,000
Rodgers	Mt. Sequoyah	2	800
Hyland Park	Mt. Sequoyah	2	400
Stone Mtn.	Mt. Sequoyah	4	1,200
Benson Mtn.	Benson Mtn.	2	40
Round Mtn.	Round Mtn.	2	100

- 2 Pressure Reducing Valves (PRV)
- 2 Flow Control Valves (FCV)
- High Service Pumps and Clearwell @ BWD

Appendix A contains a large-scale map of the existing and proposed infrastructure for the Fayetteville distribution system and the transmission waterlines from BWD.

Table 5.2.1 lists the approximate total length of waterlines by pipe diameter in the existing distribution system. The total length of waterlines in the system is approximately 744 miles, which includes the 36-inch and the 42-inch transmission lines from BWD.

TABLE 5.2.1
Distribution System Pipe Lengths

Diameter (inches)	CI	DI	AC	PVC	Galv	PCCP	Length (miles)
2.5 or less	42	0	0	48	12	0	102
3	0	0	0	13	0	0	13
4	11	0	5	29	0	0	45
6	59	5	31	90	0	0	185
8	43	11	8	208	0	0	270
10	2	0	0	1	0	0	3
12	17	8	1	33	0	0	59
14	2	0	0	0	0	0	2
16	6	0	0	0	0	0	6
18	0	0	0	8	0	0	8
20	0.2	0	0	0	0	0	0.2
24	4	3	0	6	0	0	13
30	1	2	0	0	0	0	3
36	0	17	0	1	0	7	25
42	0	0	0	0	0	10	10
Total	187	46	45	437	12	17	744

This section discusses the criteria that MWY used to analyze the Fayetteville water distribution system. Utilizing the hydraulic model, these factors were observed over a 72-hour extended period simulation under maximum day demand conditions. The results from this analysis assisted MWY with determining what future infrastructure improvements would be necessary within the distribution system to meet the growing demands of the City.

6.1 Transmission Capacity

Numerous factors enter into the design of transmission capacity. The major factors are as follows:

- Total system storage
- Operational water levels to be maintained in the tanks
- Maximum day expected in the system for each design year
- Number of hours available for refilling of storage tanks
- Maximum velocity and head loss allowed in the transmission line
- Peak hour water use

6.2 System Storage

Operational storage requirements in a distribution system generally involve three parameters:

- Maximum Day Usage
- Average Day Usage
- Required Fire Flow Rate and Duration

However, due to the increasing problems with water quality issues that distribution systems face due to the EPA (Environmental Protection Agency) Stage 2 DBP (disinfection by-product) requirements, MWY recently solicited assistance from the Arkansas Department of Health and Human Services (ADH) regarding the required operational storage for a distribution system in times of emergencies (i.e. line breaks, BWD emergency shut down, etc.). ADH recommended system storage equal to a typical average day usage to assist in mitigating the formation of DBP's and to assist in keeping water "fresh" in the distribution system (see Appendix I, *Technical Memorandum No.2*). However, the ADH emphasized that the system storage must be usable, which was defined as the storage above the minimum water level of a tank that is required to maintain a pressure of approximately 20-psi or higher in the system. ADH also recommended that total system storage (i.e. total storage present in system) should not exceed 3-4 days. This recommendation is to assist with tank water turnover and maintaining quality water in the system. Other ADH recommendations included redundancy in areas such as power supplies (back-up generators, etc.) and/or alternate feeds from the water supplier, if feasible.

Table 6.2.1 sets out the recommended storage requirements by design horizon. Using the recommendations from the ADH, the approximate present day storage requirement for

Fayetteville is approximately 16.19 million gallons, and by the year 2037 the requirement will increase to approximately 23.02 million gallons.

TABLE 6.2.1
Recommended Water Storage Requirements

Year	Average Day (MGD)	Storage Required (MG)	Existing System Storage (MG)	Storage Deficiency (MG)	Recommended Storage (MG)
2017	16.19	16.19	29.01	---	---
2022	17.68	17.68	29.01	---	---
2027	19.30	19.30	29.01	---	---
2037	23.02	23.02	29.01	---	---

6.3 Fire Protection

Fire flow rates and the required duration times shown below for each Use District were established by the International and Arkansas Fire Codes. The fire flow requirements used in this study are summarized in Table 6.3.1.

TABLE 6.3.1
Fire Flow Requirements

Use District	Fire-Flow (gpm)	Duration (hours)
Residential	1,500	2
Commercial	1,500	2
Industrial/Heavy Commercial	*2500 & Greater	3 to 4

**Fire flow can be reduced up to 75% if structure is equipped with approved sprinkler system (Source: International Fire Code, Appendix B "Fire Flow Req. for Buildings")*

Typically, dead-end waterlines and waterlines smaller than 6-inch in diameter are unable to sustain a fire flow of 1,500-gpm or greater. For this reason, fire flows were placed for analysis only on junctions that were located on 6-inch diameter waterlines or larger. Fire flows were analyzed using the model during the peak demand period of the maximum day to reflect the worst case scenario and identify fire flow limitations existing in the system under these conditions.

Using the model, available fire flows were projected at each junction for each design horizon. For the purposes of the study, available flows are projected flows with minimum residual pressures of 20-psi or greater at that location.

For planning purposes, a separate analysis was conducted to identify junctions within the system that fell below 10-psi during the minimum fire flows shown in the table above. In many cases, available fire flows may be above the minimum flow while maintaining 20-psi

or greater residual pressures at the location of flow, while inducing lower or even negative pressures in other, usually higher elevation, locations in the system. Per regulations, the

Arkansas Department of Health will allow residual pressures in some areas to dip below 20-psi during short duration emergency situations such as fire events (*Source: Dept. of Health "Rules and Regulations Pertaining to Public Water Systems", Sect. XIV B*), although inducing suction would not be allowed. For analysis purposes, 10-psi was used in the analysis for minimum system pressures at areas other than the flow junction. MWY used 10-psi to allow a reduction in pressure as allowed by the ADH while maintaining target pressures well above zero for conservative purposes, since actual system pressures may deviate from modeled pressures. The analysis identified locations where fire flows induced pressures less than 10-psi, and improvements were planned to improve low pressure areas where practical.

6.4 Low Pressure Analysis

For purposes of this study, any typical operating pressure below 40-psi under maximum day (non-fire flow) conditions was considered to be a low pressure and required further analysis. A low pressure analysis of the distribution system was completed for the existing system as well as for each design horizon. The low pressures that might result from fire flows on the maximum day were not considered as normal operational low pressures.

6.5 Water Quality Analysis

System chlorine residuals and residence time (age) were analyzed using the modeling software. Based on the historical records provided to MWY by the city of Fayetteville, chlorine residual test sites were placed within the model and calibrated to approximately match existing test records. Once calibrated the model was used to analyze the water quality for each of the design horizons. It is important to note that the chlorine residuals and residence time of water are affected by many factors within the distribution system. Thus, the results of the water quality analysis in the 10-year and 20-year design horizons could vary from actual values due to the constantly changing distribution system. MWY recommends continued analysis of the water quality in the distribution system every few years to ensure more accurate test results.

6.6 Development Water Transmission Main Spacing

In this study, a 12-inch water transmission main grid with a separation of approximately one-half mile is recommended in the distribution system where feasible. This spacing is based on hydraulic model runs of the system and engineering judgement as to the line sizes and spacing required to support fire flows and to supply peak demands within the system. In practice, the line spacing will depend on the corridors available for water line construction, the location of existing and future streets and the pattern of development in a given area.

The construction of the 12-inch waterline grid is not tied to a particular phase of work as recommended in this study. The need to construct a given transmission main will depend on the location and intensity of the development. Whenever such development occurs, the

hydraulic model should be run to confirm the need for the main (or mains) and to confirm the location and size of the transmission line.

It is recommended that the City develop a plan for the one-half mile grid to follow existing transportation corridors, property lines and development trends. The installation of the 12-inch waterline grid should be consistent with improvements that occur in undeveloped lands within the planning jurisdiction.

In the study of the Fayetteville distribution system, MWY's initial step was to analyze the existing system to discover any deficiencies that may exist using the updated Fayetteville hydraulic water model. MWY then created a 20-year master plan for system improvements necessary to meet the needs of the City. The model was operated utilizing the existing and projected system demands and took into consideration the operational requirements unique to the Fayetteville system.

7.1 Existing Distribution System Analysis

Existing Fire Flows

Utilizing the hydraulic water model, the existing system was analyzed for fire flow deficiencies. Simulated fire flows were performed on all waterlines with a diameter of 6-inches or larger. As stated in *Section 6.0* of this report, generally waterlines smaller in diameter than 6-inches are not able to sustain the required fire flow, therefore they were omitted from the analysis.

Appendix C contains the exhibit's that illustrate the areas in each pressure plane where fire flow deficiencies occurred in the existing distribution system. Fire flows were analyzed during the peak hour of the maximum day to reflect the worst case scenario and identify fire flow limitations that may exist in the system under current conditions. Generally, fire flow deficiencies can be attributed to being located on dead-end waterlines, small diameter waterlines and/or areas located in the outer reaches of the distribution system. For this report, a given location was considered adequate if the required fire flow could be met while maintaining a minimum residual pressure of 20-psi (pounds per square inch) at the flow junction.

Appendix C also contains tables detailing the results from the analysis of the existing system fire flows for each corresponding exhibit. As shown in the exhibits, numerous areas had insufficient waterline interconnectivity to convey the amount of water needed to supply the required fire flow of 1,500-gpm.

Existing Low Pressure Areas

An area is considered to experience low pressure when under normal operating conditions the pressure falls below 40-psi. Factors that can attribute to an area experiencing a low pressure are as follows:

- Higher ground elevations
- Low water levels in tanks
- Customers located on small diameter waterlines (generally less than 6-inch)
- Customers located on dead-end waterlines

- Peak demand periods (i.e. summer)

To determine potential low pressure problems, the water service area was analyzed during the maximum day to identify limitations that may exist in the distribution system. Exhibit D1 and Table D1 located in Appendix D show the areas which experience pressures below the requirement.

Existing Water Quality Analysis

With the aid of the hydraulic water model, MWY performed a water quality analysis for the existing Fayetteville distribution system to evaluate potential problem areas that may exist within the system. The water quality analysis consisted of evaluating the chlorine residual and residence time (age) of the water. The water quality analysis was evaluated during an average day demand to simulate lower water use in the system.

Chlorine is used to disinfect the water supplied to the Fayetteville system and is added at the Beaver Water District plant. The amount of chlorine added to the system depends on the time of year and the demands in the distribution system. Based on historical information provided by BWD, the amount of chlorine added to the treated water at the treatment plant ranges between 1.15 milligrams per liter (mg/L) to 1.40 mg/L.

To analyze the amount of chlorine in the water system, MWY collected historical chlorine residual test data from the City of Fayetteville which was used to calibrate the hydraulic water model. Currently, the water department tests over 90 different site locations in the water service area. For the purpose of this report, any location within the water service boundary was considered marginal if a chlorine amount of 0.01 mg/L or less was detected after three (3) days within the distribution system. Exhibit E1, which is located in Appendix E, shows the locations where marginal amounts of chlorine were detected as determined by the hydraulic water model for the existing Fayetteville distribution system. As shown in exhibit, these locations are generally located on dead-end waterlines and/or in the extremities of the water system.

According to the model analysis; however, there were a number of locations in the vicinity of the Canterbury tank which experienced chlorine residuals below 0.01 mg/L. Factors that can attribute to low chlorine residuals are minimal customer usage, tank water turnover, age of water, etc. Generally, water storage tanks can be a major contributor in increasing water age in a distribution system. Tank water age can especially be an issue during low demand periods of the year. However, based on the Canterbury tank plans of record, the existing tank is equipped with separate inlet and outlet waterlines. Typically, this design configuration has a significant affect in allowing greater turnover and maintaining a lower water age in the tank.

Based on city bacteriological (Bac-T) site data, there is presently not a sample site located in the problem areas surrounding the Canterbury tank. With no historical data to review, MWY recommends the City perform additional tests in these areas to verify that the model results are accurate. If field tests verify that an issue exists, further analysis may be needed to

determine the appropriate measures to implement to increase the chlorine residual levels in this area. Methods that can assist in increasing chlorine residual levels are shown below:

- Increase Tank Turnover (i.e. change pump station operation and allow tank level to drop more, promote development to increase demands, etc.)
- Improve Tank Water Mixing (i.e. mixing system)
- Implement Flushing Program

The residence time (age) for the water supplied to the Fayetteville distribution system was considered marginal if the age of the water was three (3) days or greater at any location within the system. Below is a list of problems that can arise if water in a system remains unused (stagnant) over an extended period.

- Taste and odor problems
- Discoloration
- Temperature increase
- Sediment deposition

Exhibit F1 (see Appendix F) illustrates the existing distribution system residence time analysis for the areas within the Fayetteville water service boundary that did not meet the criteria listed above. Referring to the exhibit, the majority of the areas that experience marginal water residence time occur on dead-end waterlines. When feasible, looping dead-end waterlines back into the main grid of the water system is the best way to mitigate most water quality problem areas.

Disinfection and Disinfection Byproducts Rule

The Stage 1 Disinfection and Disinfection Byproducts Rule (Stage 1 D/DBP) was promulgated in December of 1998. The rule was intended to improve public health protection by reducing exposure to disinfection byproducts (DBP). DBP's are chemical compounds produced as an unintended consequence of disinfection in drinking water treatment. Disinfectants react with natural organic matter (NOM) found in water, creating by-products. Some DBP's have been found to be carcinogenic or cause adverse reproductive effects (Edzwald 2011). Pertinent requirements of the rule are:

- The rule established maximum residual disinfectant levels (MRDL) for chlorine, chloramines, and chlorine dioxide.
- Maximum contaminant levels (MCL) for the following DBP's were also created: total trihalomethanes (TTHM or THM), five haloacetic acids (HAA5), bromate, and chlorite. The regulated trihalomethanes are chloroform, dibromochloromethane, dichlorobromomethane, and bromoform. The regulated haloacetic acids are mono-, di-, and trichloroacetic acids and mono- and dibromoacetic acid. The MCL for TTHM is 80 micrograms per liter ($\mu\text{g/L}$) and the MCL for HAA5 is 60- $\mu\text{g/L}$. A microgram is one millionth (10^{-6}) of a gram. *Compliance is based on a running annual average of all samples from all monitoring locations within the water*

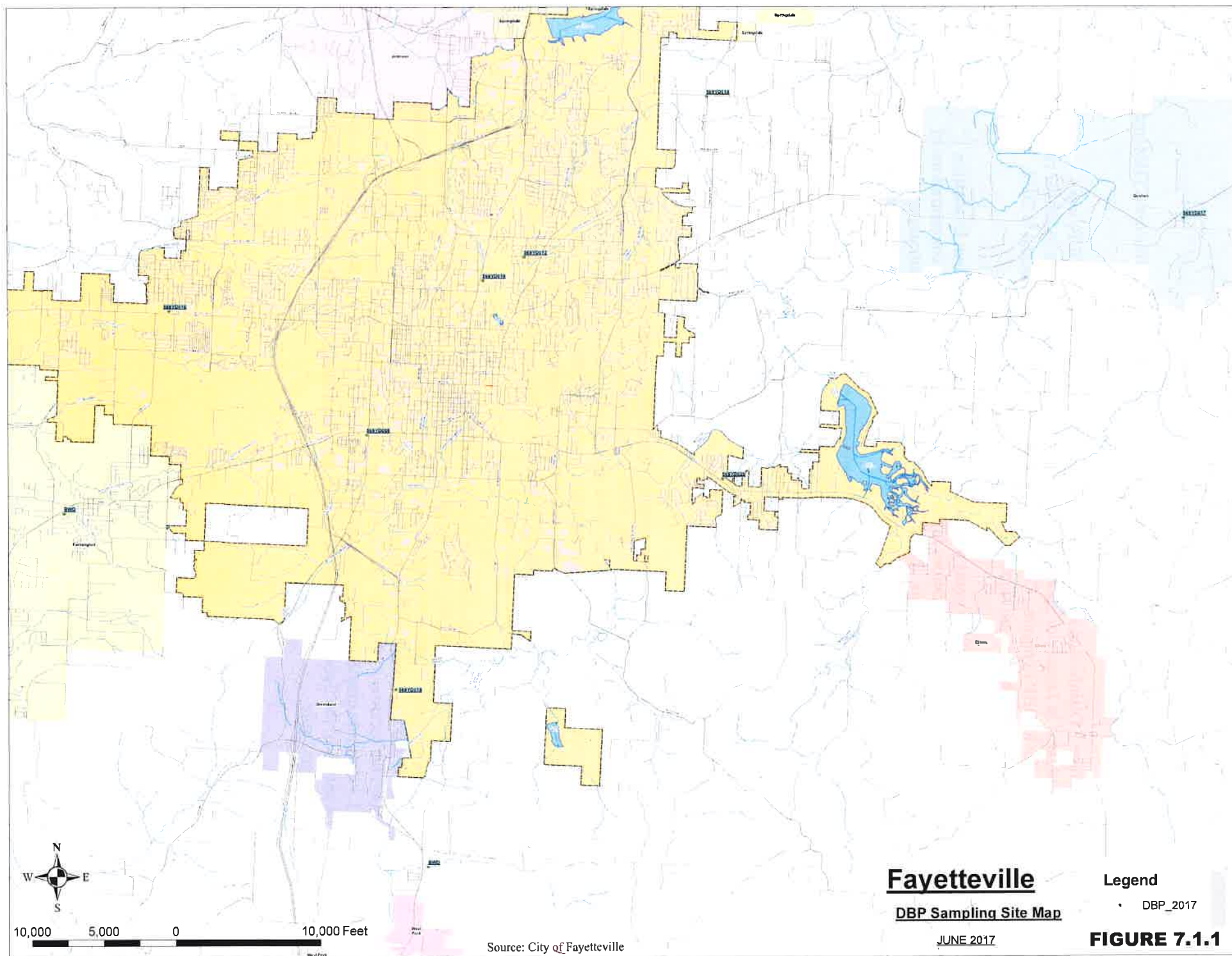
distribution system. The regulated DBPs of concern for Fayetteville are TTHM and HAA5.

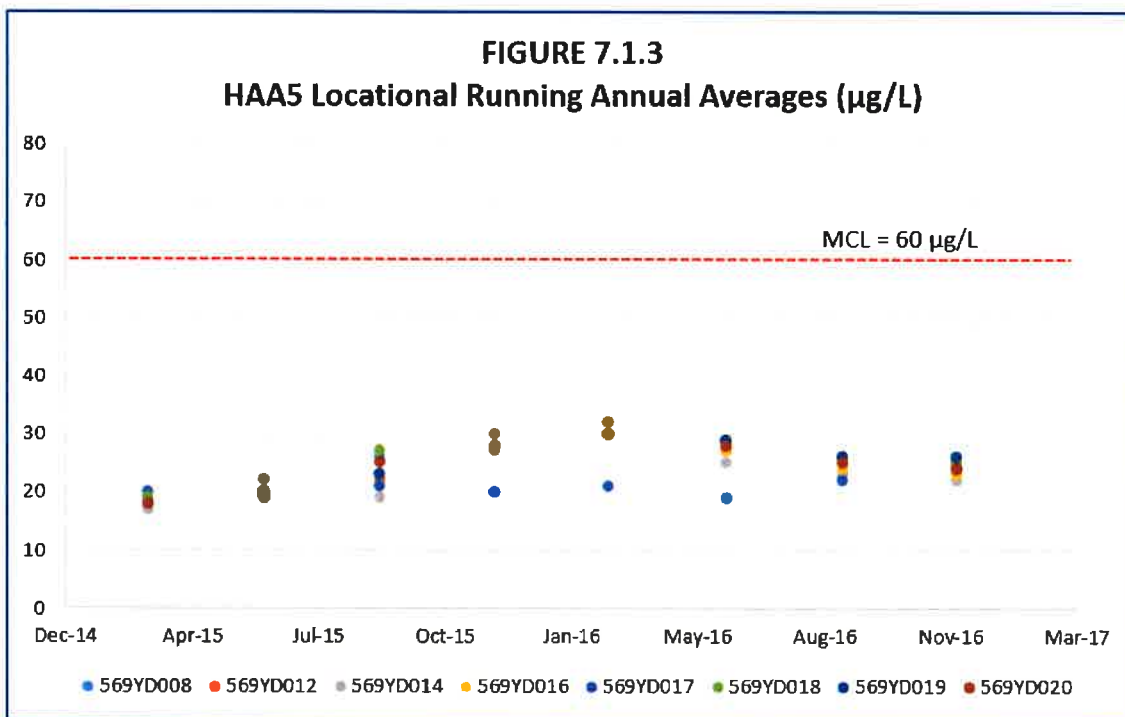
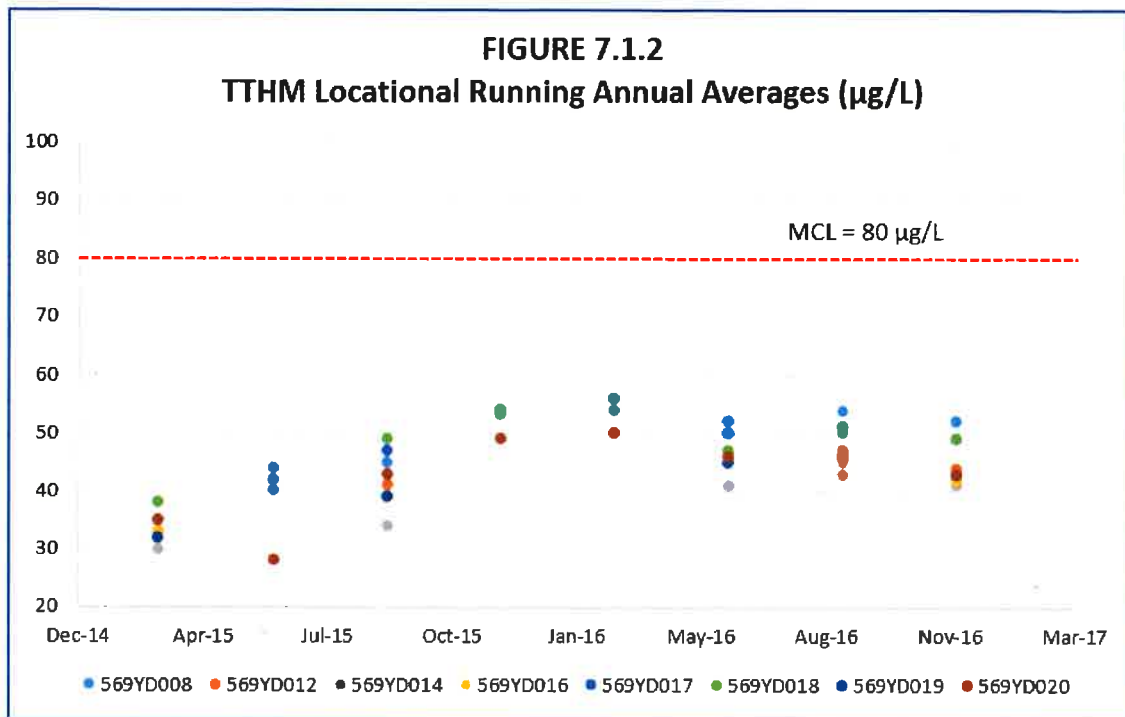
The Stage 2 Disinfection and Disinfection Byproducts Rule (Stage 2 D/DBP) was promulgated in January of 2006 and builds upon the Stage 1 D/DBP Rule to further reduce the public to DBP exposure. Compliance monitoring for Fayetteville began in 2012. The requirements of the rule are summarized below:

- The rule required systems to conduct an Initial Distribution System Evaluation (IDSE) to identify locations in the distribution system with high concentrations of disinfection byproducts. Locations with the highest DBP concentrations identified by the IDSE were generally used as the sampling sites for Stage 2 D/DBP compliance monitoring.
- MCL's for the TTHM and HAA5 remain unchanged from the Stage 1 D/DBP Rule; however, *compliance is based on a locational running annual average for each sampling site rather than a running annual average of all sampling locations.*
- In order to provide an early warning of future MCL violations, an operational evaluation level (OEL) was created based on the compliance monitoring results. A system which exceeds the OEL is required to review their operational practices and submit a report to their state identifying actions taken to mitigate future high DBP levels.

The new Stage 2 rule changed the method of determining compliance with maximum contaminant levels. Under Stage 2, the DBP concentration for a particular sampling site is averaged with the results from the previous three quarters and a locational running annual average (LRAA) is determined. Compliance is achieved if the LRAA is below the MCL. Stage 2 differs from Stage 1, because under Stage 1 compliance was based on a running annual average of all samples from *all monitoring locations* within the water distribution system rather than a specific sample site.

Based on the Individual Distribution System Evaluation (IDSE) performed by the Arkansas Department of Health (ADH), the City of Fayetteville has six (6) sites throughout the distribution system that have been monitored for the formation of DBPs. In addition, Beaver Water District monitors two additional sites for Fayetteville-system DBPs. Figure 7.1.1 shows the location of the DBP sites in the Fayetteville distribution system. Figures 7.1.2 and 7.1.3 illustrate quarterly LRAA results for 2015-2016 for TTHMs and HAAs, respectively. As shown in the figures, Fayetteville's DBPs are significantly under the MCLs established by the Stage 2 rule.





Design Phase Analysis

The proposed improvements to the system were divided into three design horizons. The immediate design horizon is from the present day to the year 2022 and is designated as Phase I. The intermediate design horizon is from 2022 through 2027 and is designated as Phase II. The long-range design horizon is designated as Phase III and is for the years 2027 through 2037.

Each design horizon was analyzed for transmission capacity, system storage requirements, in-system transmission requirements, fire flow needs, low-pressure areas and water quality. Appendix A contains a large scale map of the recommended improvements for all three phases of work.

7.2 Phase I Improvements, 2017 - 2022

Phase I includes the recommended system improvements required by the year 2022. These improvements include new elevated storage tanks, pump stations and construction of additional transmission and distribution waterlines to help with the conveyance of water throughout the system to meet the City's future needs.

Area Specific Analyses

This section includes site specific areas that the City of Fayetteville requested MWY analyze and provide recommendations to mitigate certain issues that are unique to the area.

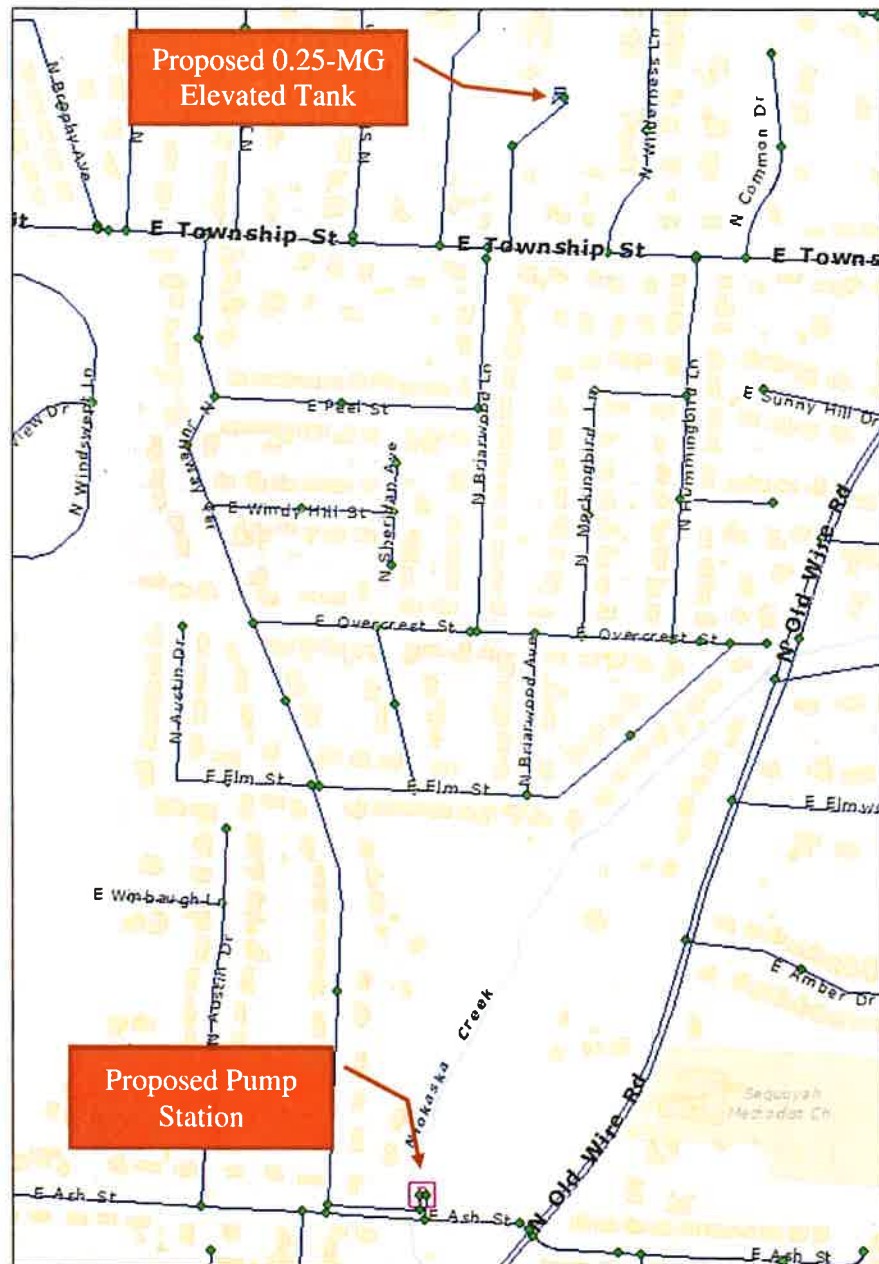
Township Pressure Plane Improvements

As discussed in *Section 4.0* of this report, the storage volume of the existing Township tank is 0.075-MG. Due to growth within the Township pressure plane, the tank, which was constructed in 1976, is no longer adequate to meet the current or projected customer demands or provide the necessary fire protection. For these reasons, a new 250,000 gallon elevated tank and pump station are recommended. With the increased pressure plane demands, the larger tank should provide longer periods of continuous water service in the event of a line break or pump station issue. The additional storage should also give the City's water department more flexibility to mitigate such issues by providing repair crews more time to mitigate the problems.

With the construction of a new tank, it will also be necessary to construct a new pump station. The recommended pump station will convey water to the new tank and be controlled by the tank water level, and will replace the existing pump station along Ash Street. The proposed pump station will be able to pump a larger volume of water than the existing station, and assist the new tank with fire flows when necessary. The new station will also be equipped to operate without the new tank as well. This feature will allow the customers within the pressure plane to maintain service when it is necessary take the tank out of service for periodic maintenance inspections, painting, etc. Under the current system configuration, the Township tank cannot be taken out of service without all customers losing water service.

Figure 7.2.1 is a schematic showing the approximate location of the new tank and pump station.

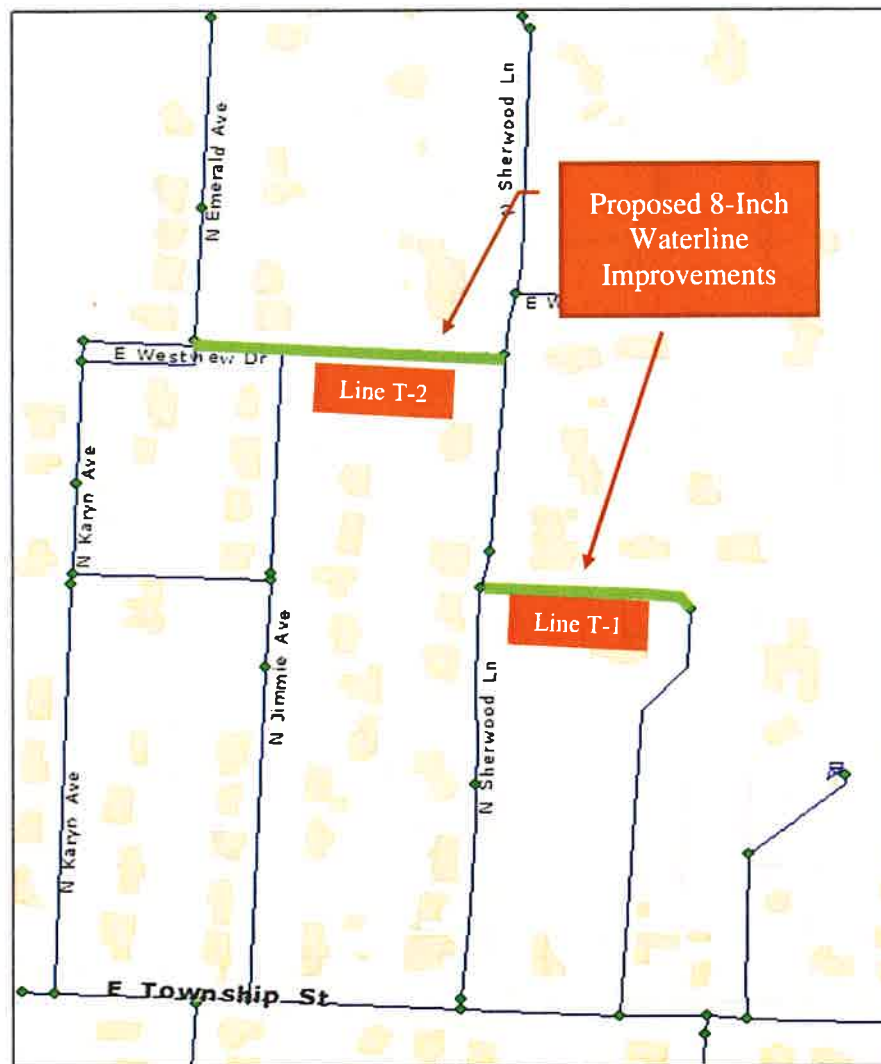
FIGURE 7.2.1
Township Pressure Plane Improvements



Source: InfoWater Hydraulic Model

To assist certain areas within the Township pressure plane with fire demands, MWY also recommends constructing two 8-inch waterlines as well. The first recommended line is approximately 400 linear feet (Line T-1) and is located in the northwestern region of the Township system and loops a dead-end 6-inch waterline to an existing 8-inch waterline running along Sherwood Lane (see Figure 7.2.2). The second waterline is also located in the same vicinity and would connect to the 8-inch waterline just south of the Sherwood Lane and Wendy Brooke Lane intersection (Line T-2). The proposed line is approximately 570 linear feet and would tie to an existing 6-inch line on Emerald Avenue (see Figure 7.2.2). Based on the hydraulic model, the installation of these lines will greatly enhance the fire flows for the customers located in this region as well as improve water quality.

FIGURE 7.2.2
Township Pressure Plane Waterline Improvements



Source: InfoWater Hydraulic Model

East Fayetteville Improvements

Phase I improvements also include providing additional storage and transmission capacity to the customers in east Fayetteville. The existing infrastructure in the Gulley pressure plane (see *Section 4.0*) provides water service and fire protection to the customers located within the boundaries of the pressure plane, and it is also the only source of water for the Goshen system as well. The Goshen system currently receives water from the Gulley pressure plane through the Slaughter Mountain valve located on Hwy. 45. The existing Gulley tank and pump station were constructed in 1999, and based off results from the hydraulic analysis, the demands in the Gulley and Goshen systems have reached levels where the existing Gulley infrastructure can no longer meet water demands and/or provide adequate fire protection for all customers in both systems. MWY modeled four (4) different scenarios to mitigate the issues in the two pressure planes. Each scenario included constructing new water storage (i.e. ground, elevated) and pumping facilities or refurbishing existing facilities. They are as follows:

- Sassafras Hill Improvements (see *Option 1*)
- Alternate Gulley Tank Site Improvements (see *Option 2*)
- Gulley/Goshen Split (see *Option 3*)
- Upgrades to Existing Infrastructure (see *Option 4*)

It is important to note that the master plan for the existing Gulley tank site (provided by City of Fayetteville in 2011) includes provisions for future ground storage and elevated tanks to serve Fayetteville's Primary and Goshen pressure planes. The site also allows for a future fire station to be constructed.

The following paragraphs detail four (4) different options regarding infrastructure improvements that were analyzed to meet the necessary needs of both the Gulley and Goshen pressure planes.

Option 1 – Sassafras Hill Improvements

The Sassafras Hill improvements, which were included in the 2011 Fayetteville Water Master Plan, included a new ground storage tank to be located east of Sassafras Hill Road on property that would need to be purchased by the City. This scenario also included the construction of 18-inch and 12-inch waterlines. According to the analysis, the improvements associated with this scenario would still work; however, due to expensive land costs in this area and the anticipated disruption to property owners along the two (2) proposed waterline alignments during construction, this option was deemed to be the less viable option as compared to the ones discussed in more detail below (see *Options 3 and 4*) and screened from further consideration.

Option 2 – Alternate Gulley Tank Site Improvements

MWY also modeled and analyzed constructing a ground storage tank at the existing Gulley Road tank site as well. Other improvements included the construction of two (2) 18-inch waterline segments and a new pump station that would be necessary to

pump water to the Goshen tank. This scenario potentially could have less cost to the City than other options discussed since the City would not have to purchase a large tract of land to construct a new tank. Another benefit would be that ground storage tanks are typically less expensive than elevated due to constructability, height, etc.

Based on the analysis, this scenario was able to meet the demands in the Goshen system; however, this scenario was not able to maintain normal, day to day system pressures above 20-psi (specifically in the higher elevated areas along Hwy. 45 between Gulley Road and Rivercrest Road). Due to this reason this option was also screened from further consideration.

Option 3 – Gulley/Goshen System Split

The infrastructure improvements associated with this option include a 750,000 gallon elevated tank to be constructed at the existing Gulley Road tank site in the eastern region of the water service area. The addition of the elevated tank, along with accompanying pump station and waterlines, would enable the City to convey more water to the Goshen system. If the report demand projections are correct, within the next 5-years the existing Gulley pump station will need to be completely upgraded to be able to pump the amount of water necessary to meet the future demands in both systems. Furthermore, the total usage for each system will equal more than 1.2-MG by 2022, during certain periods of a typical average day. Based on this demand, the Gulley system would have less than one day's worth of storage to maintain service in the two pressure planes if there were to be a major line break or other emergency that would prevent water from entering the system. If the emergency event occurred during a maximum day, the two systems would have even less time before water service was interrupted. The new tank, pump station and accompanying waterlines would remove the Goshen system water demands from the Gulley pressure plane and give both pressure planes an adequate water supply for existing and future needs. This would also allow the existing Gulley tank and pump station to serve the Gulley area well beyond 20 years without the need for additional capacity. The new tank would have an overflow elevation of 1,660-ft msl (same as existing Gulley tank) and would gravity feed water to the Goshen system based on tank levels at the Goshen tank located on Fire Tower Road.

The proposed improvements for this option also include a new pump station to be constructed on the tank site property. The pump station would operate based on tank levels in the proposed tank. Based on the hydraulic analysis, the pump station would have a pumping capacity of approximately 2,200 gallons per minute (gpm). Transmission improvements include the installation of two (2) 18-inch line segments. The first line segment (Line EF-1) would be approximately 3,800-lf (linear feet) and would connect to the existing 18-inch line along Gulley Road on the suction side of the existing Gulley Road pump station. The waterline's alignment will head south towards the Gulley tank site and tie into the proposed pump station and then continue to the new tank. The second 18-inch line segment (Line EF-2) would be approximately 4,700-lf and would convey water from the tank to the new Goshen

system. This line will leave the tank and take a generally southern course and tie into an existing 12-inch waterline located along Hwy. 45. Appendix A contains the Distribution Improvements Map which shows the locations and alignment of the improvements described above.

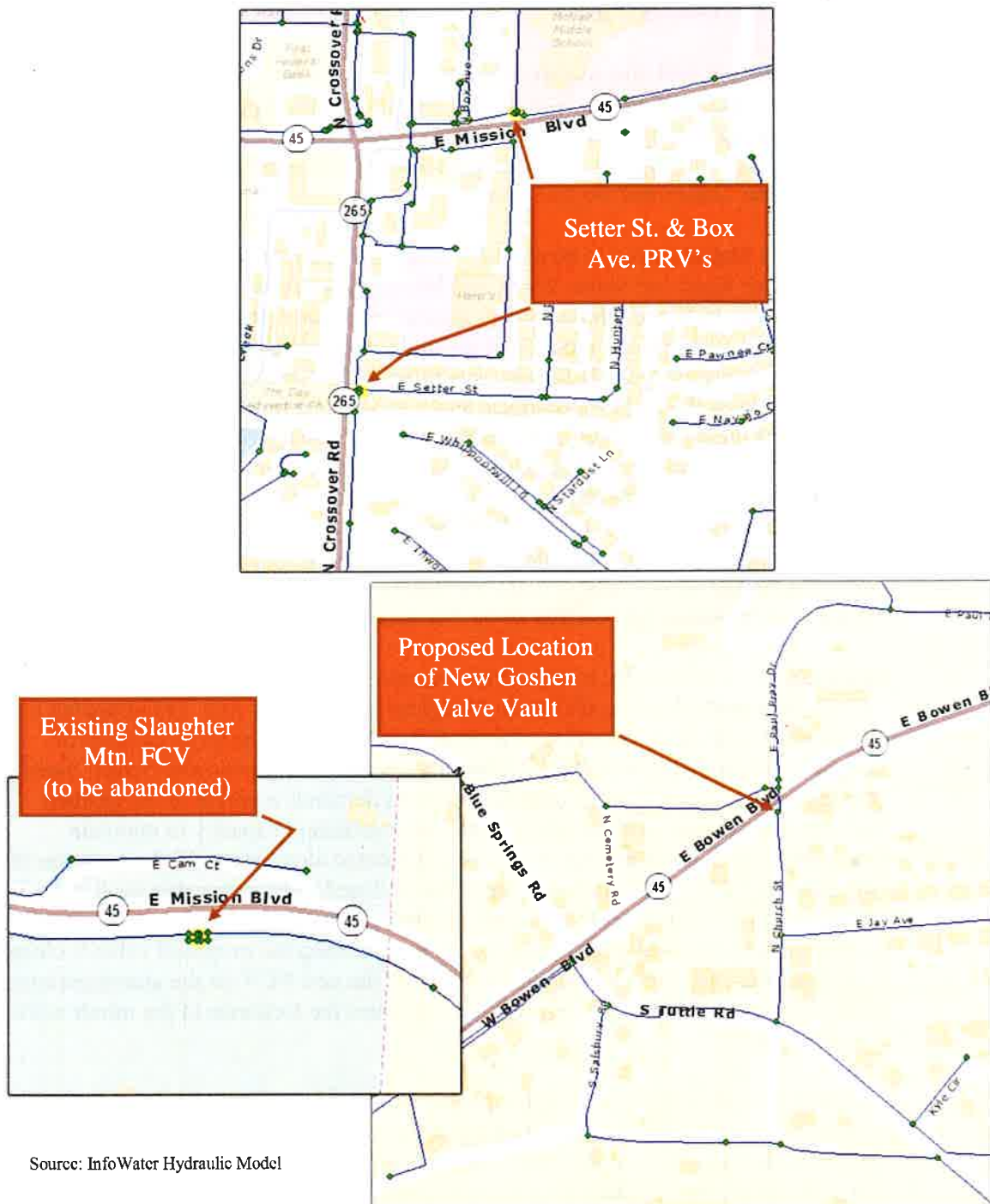
The system split will also require a few modifications to the current distribution system configuration along Hwy. 45 (i.e. closing valves, pipe connections, etc.) as well as placing into operation two existing pressure reducing valves (PRV) and relocating the existing 6-inch flow control valve at Slaughter Mountain that currently separates the Gulley and Goshen systems.

The PRV's that will need to be placed into operation are located at the intersections of Crossover Road and Setter Street, and Mission Boulevard (Hwy. 45) and Box Avenue. The PRV's are the boundary separation between the Primary and Gulley systems, and are presently closed and do not let water pass between the two systems under any circumstances. However, according to the fire analysis, customers located in this region of the Gulley system currently experience fire flow limitations. Placing into service these PRV's will increase fire flows in this region by supplementing water from the Primary system. Under normal system operation (i.e. no fire flows), the pressure setting of the PRV's should be set such that the valve would remain closed and not allow water to pass from the Primary pressure plane; however, if a sudden pressure drop in the Gulley system should occur (i.e. fire demand) the PRV's would open and allow water to enter the Gulley pressure plane and supplement water to the system during the duration of the fire event.

If *Option 3* is constructed, it will also be necessary to abandon the existing 6-inch and 3-inch flow control valves (FCV) on Slaughter Mountain as well, and construct a new valve vault near the intersection of E. Paul Pray Dr. and Hwy. 45 in the City of Goshen. The existing 6-inch FCV currently operates (i.e. opens and closes) based on the tank levels in the Goshen tank; however, as demands increase in the Goshen system, the existing Goshen tank will not have sufficient capacity to maintain adequate system pressures for the customers located along Hwy. 45 downstream of the existing FCV during the times the valve is closed. The new valve vault at E. Paul Pray Dr. will greatly decrease the total number of customers that are solely dependent on the Goshen tank for water supply and pressure when the proposed valve is closed, and place the customers located upstream from the new FCV on the aforementioned new East Fayetteville tank. Figure 7.2.3 illustrates the locations of the minor work to be completed.

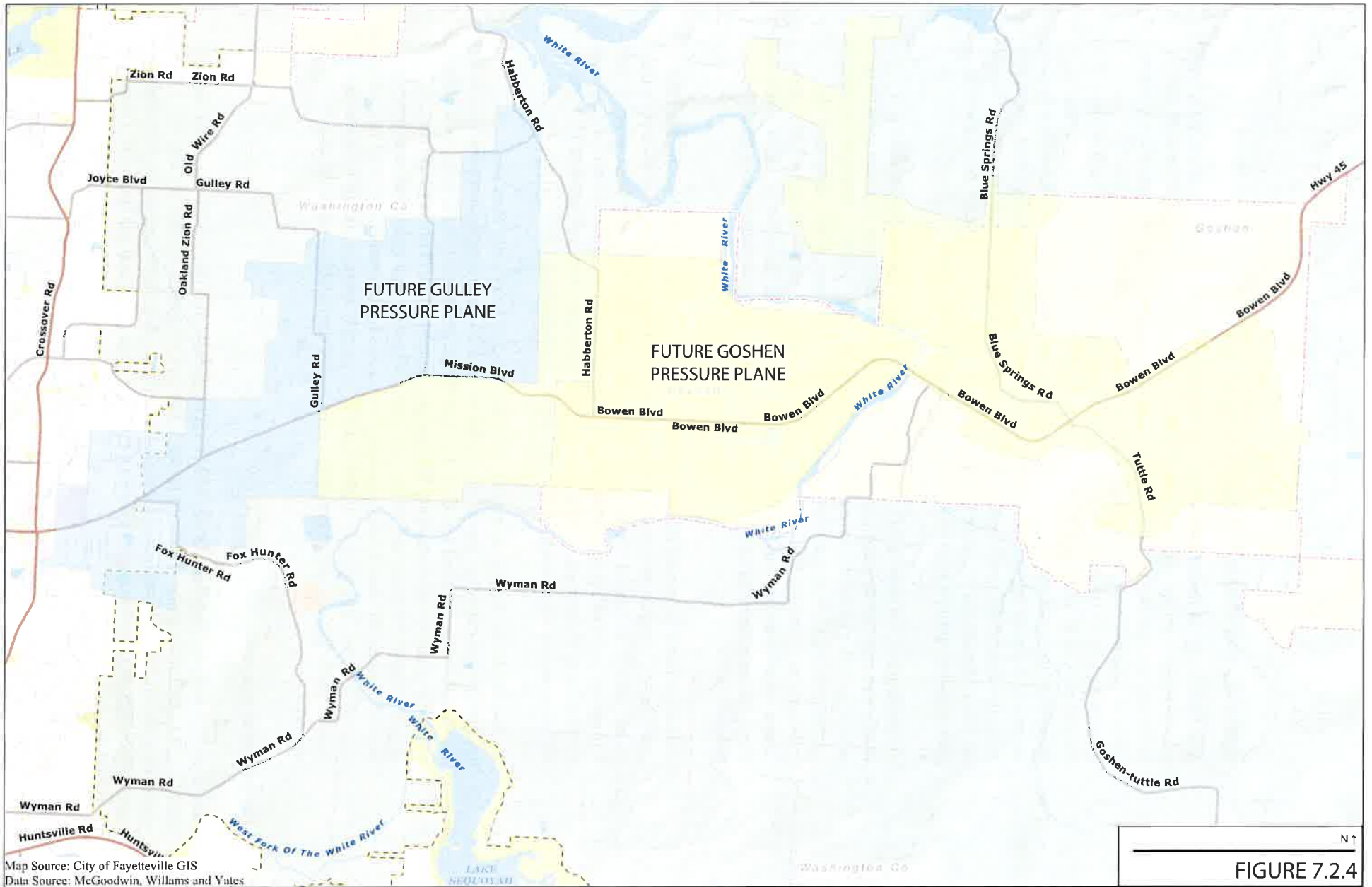
Another advantage to separating the two pressure planes is that interconnective piping can be constructed between the existing Gulley Road tank and the new 0.75-MG East Fayetteville tank. This new piping would allow for either tank to serve both systems on a temporary basis. This added feature gives the City flexibility to take either tank out of service for routine maintenance, repairs, painting, etc. and still maintain limited service to its customers.

FIGURE 7.2.3
Miscellaneous East Fayetteville Improvements



Source: InfoWater Hydraulic Model

Once these proposed improvements are installed, the boundaries of the new Gulley and Goshen pressure planes will change, which is shown in Figure 7.2.4.



Option 4 – Upgrades to Existing Infrastructure

The fourth option includes maintaining the current system configuration, with Gulley continuing to be the main water source for the Goshen system. Maintaining the existing configuration will; however, require upgrades to the existing Gulley pump station. The existing station has a total of three pumps with a capacity of approximately 2,100-gpm (two pumps running simultaneously). The Arkansas Department of Health (ADH) requirements state that a pump station must have a redundant pump of equal size as the largest pump in the station to serve as a back-up in case of a pump failure to the main. This ensures that if one pump fails, there is a back-up that can be used to meet the demands as the other is being repaired. Based on this criterion, the existing Gulley station is very near to capacity since there is currently two pumps in operation during each pumping cycle.

According to City water staff, there have recently been short periods, during a maximum day demand scenario, where the existing station has strained to maintain adequate water levels in the existing Gulley tank. This will only worsen, as demands increase in the Gulley and Goshen systems. To meet these future demands, the existing pump station will need to be upgraded to flow approximately 3,400-gpm. These improvements will enable the pump station to fill the existing Gulley tank and meet the maximum day demands as well as the provide adequate flows for fire protection.

Although these proposed improvements are less expensive than splitting the two systems, it is important to note that the increased flows generated by the upgraded pump station do have a negative effect on the distribution lines in the Gulley system. Currently, an existing 16-inch waterline supplies water from the existing pump station to the Gulley Road tank. At the tank site the waterline size reduces to a 12-inch, which conveys water south to the existing 12-inch that runs along Hwy. 45.

According to the hydraulic model, these lines begin to operate at or near recommended capacity, especially in the 10 and 20-year design horizons, due to the increased flows. Waterlines are considered to be at capacity once they consistently experience velocities exceeding 5.0 feet per second (fps). This is based on engineering experience and judgment, which suggests that energy/pumping costs become infeasible due to excessive friction losses in the waterlines once the velocities exceed 5.0-fps. In addition, higher velocities greatly increase friction losses and contribute to lower system pressures, effectively diminishing capacity to convey water.

Recommendation

Based on the analyses detailed above, MWY recommends that the separation of the Gulley and Goshen systems (*Option 3*) would be the most advantageous to the City and the customers located in each pressure plane. As stated, the short-term capital improvements associated with *Option 4* are less expensive than the ones described in *Option 3*. However, if

the projected demands for these areas follow those detailed in *Section 3* of this report, *Option 4* may require the city to begin paralleling waterlines within the next 10-20 years to increase distribution capacity and meet the domestic water and fire protection needs of its customers. The fourth option also does not give the City flexibility with providing continued water service if the need arises to take the Gulley Road tank out of service for maintenance and/or repairs.

Gulley Pressure Plane Distribution Waterline Improvements

During the East Fayetteville fire flow analysis, the hydraulic model identified areas within the Gulley system that could not meet the fire flow requirements set forth in this report. Based on the water model, the areas in the Bridlewood Drive vicinity, which is located northeast of Sassafras Hill Road, experienced fire flows below the 1,500-gpm requirement. Currently, this area is served by a 6-inch waterline that runs along Sassafras Hill Road. Due to the additional growth in this region, the existing 6-inch waterline is no longer capable of providing adequate fire protection. These fire flow problems are further complicated by the high elevated areas on Sassafras Hill as well.

To help mitigate these issues, MWY recommends constructing an 8-inch waterline (Line EF-3) from Saddleridge Drive to an existing 8-inch on Drexel Drive. Another segment of 8-inch line is proposed to be constructed from the Drexel Drive and Sassafras Hill intersection to the existing 8-inch located at the intersection of Lamar Pettus Rd and Sassafras Hill (see Appendix A). This will provide a continuous 8-inch feed from the existing 16-inch transmission line along Gulley Road to the Bridlewood area.

Benson Mountain Pressure Plane Improvements

The Benson Mountain system is located in the far eastern region of the service boundary, southeast of the City of Goshen, and is conveyed water through the Benson Mountain pump station, which is located at the Goshen tank site (*see Section 4.0*). The Benson system is relatively small and mainly contains waterlines that are 4 inches in diameter and less. Although the Benson Mountain system has very few customers, it currently serves approximately three large poultry operations. These operations have approximately 18 poultry houses combined. Due to the size of the existing tank, pump station and waterlines in the system as well as the location of some of the poultry operations, the current system configuration was not designed to serve this type of daily demand charge.

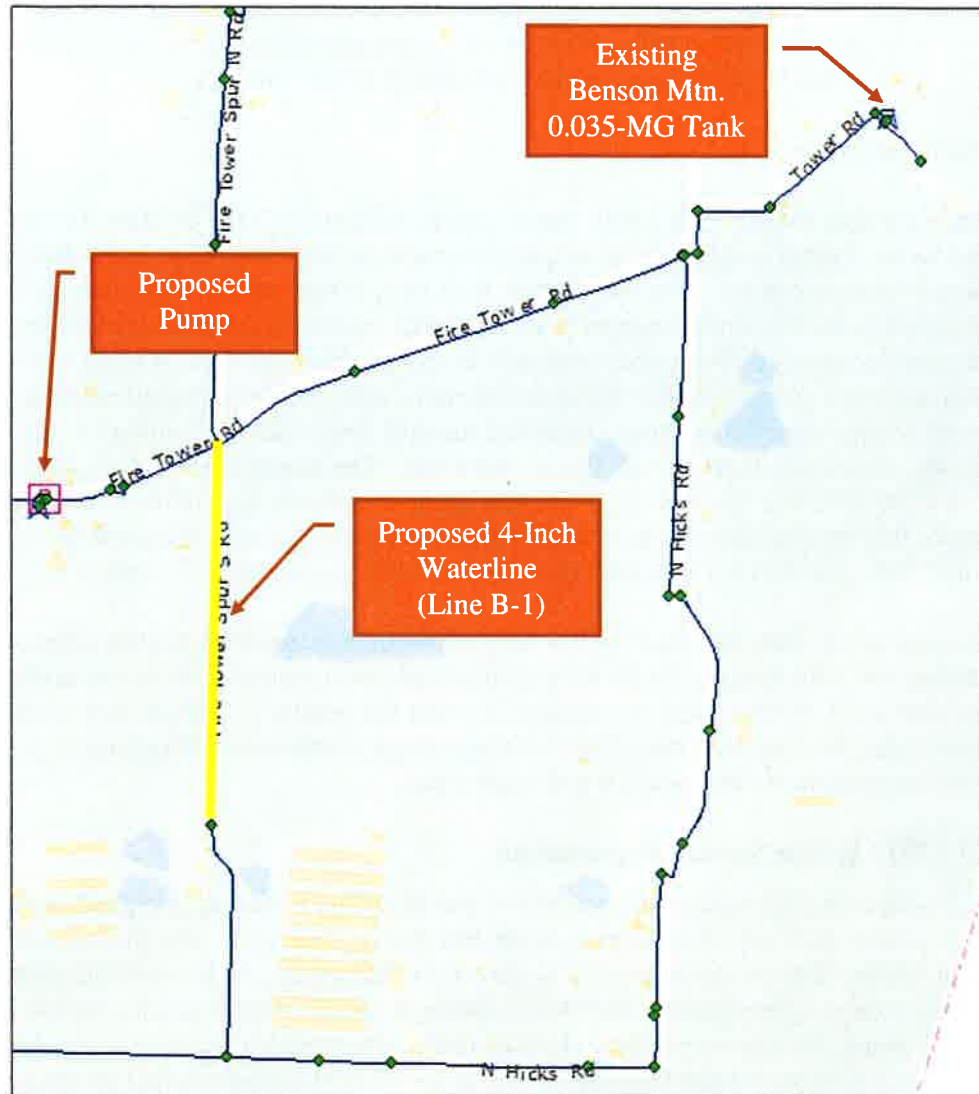
To help maintain adequate service to all customers within the Benson system, MWY analyzed various system improvements to mitigate any present or future supply and pressure issues that may be caused from the demands generated by these operations. A brief description of these improvement options is detailed in the following paragraphs.

Option 1

This option includes upgrades to the existing pump station and installing a new 4-inch waterline. The existing pump station is equipped with two pumps that have a rated capacity of approximately 40-gpm. The station is controlled by the tank levels in the existing 35,000 gallon Benson Mountain standpipe tank. According to the analysis, to meet the domestic and poultry demands in the system a new pump station with a rated capacity of approximately 120-gpm will be necessary. The new pump station would operate based off tank levels in the existing tank, just as the current station does presently. The additional capacity generated from the new pump station along with the storage in the existing tank will assist in meeting the current and projected demands in the system.

Option 1 also requires that approximately 2,200 linear foot of 4-inch waterline (Line B-1) be installed along Fire Tower Spur S. Road. This new waterline will close a “gap” that currently exists in the Benson Mountain distribution system where currently no waterline exists. The customers located along N. Hicks Road are currently located on a dead-end waterline and are at the furthest reaches of the Benson system. The new 4-inch waterline will create a “loop” that will allow these customers to receive water more efficiently and assist in maintaining a more constant pressure during high demand periods. Figure 7.2.5 shows the Benson system with the proposed improvements.

FIGURE 7.2.5
Benson Mountain Pressure Plane Improvements



Source: InfoWater Hydraulic Model

Option 2

Option 2 includes upgrades to the existing pump station as well, but it also includes replacing the existing tank with a new elevated tank. Referring to the Township improvements paragraph, the existing Township tank is to be replaced with a larger tank to meet the increased demands in that system. Utilizing the hydraulic model, MWY analyzed replacing the existing Benson system tank with the current Township elevated tank. Due to the increased height of the Township tank, the Benson system would see a pressure increase of approximately 19-psi. The Township tank would

also increase the storage capacity of the system by 40,000 gallons (75,000-gal compared to 35,000-gal).

The pump station upgrades detailed in *Option 1* will still be necessary with the relocated Township tank. With the additional pumping and storage capacity, the 4-inch waterline in *Option 1* would not need to be constructed.

Recommendation

Based on conversations with a tank manufacturer, relocation of the existing Township tank could be an expensive alternative compared to constructing a new tank in the Benson Mountain pressure plane. The tank, which is of steel construction, would have to be dismantled in such a careful manner that it could be transported and re-erected properly. The tank manufacturer stated that they generally do not perform this type of work because of associated risks. Although they did state that there were smaller companies that do this type of work in their experience once completed, the tank looks like a cut down, re-erected tank and does not usually meet current design standards. The manufacturer also stated that due to the year the tank was constructed, 1976, that there is probably lead in the tank paint and that it would be very expensive to remove and repaint. Due to the reasons stated above, MWY recommends that the City construct the improvements associated with Option 1.

It is important to state that the City has been in discussions with the poultry operation owners regarding the limitations of the Benson system and have taken precautions to protect the other customers by restricting the amount of water the poultry operations can receive at the present time. It is our understanding that these usage restrictions will remain in place until system improvements are installed and operational.

2017 - 2022 System Storage Requirements

Based on recent discussions between MWY and the ADH regarding adequate storage for water systems, the City of Fayetteville currently has in place sufficient operational system storage for the next twenty years (see *Section 6.2*). Currently, the Fayetteville distribution system contains approximately 29.0-MG of storage, with 27.0-MG residing in the Primary pressure plane. However, two new elevated tanks, which were discussed in the *Area Specific Analyses* section, have been included in this phase of work to assist with increasing customer demands and fire protection.

2017 – 2022 System Transmission Line Improvements

Through the use of the hydraulic water model, MWY analyzed the water system to identify any areas where distribution system transmission line improvements were necessary to meet the projected demands in the Fayetteville water system. These “in-system” transmission lines are generally 16 inches in diameter and greater and assist with closing gaps and/or the conveyance of water to areas with large customer demands and existing or proposed storage tanks.

The results from the Phase I analysis indicated the need for the construction of approximately 5,300 linear feet of 18-inch ductile iron transmission line (Line I-1) in the southeast region of the system. The new line would connect north of the Huntsville Road (Hwy. 16) and Crossover Road (Hwy. 265) intersection to an existing 24-inch transmission line, which runs north and south along Crossover Road. The new line would take an easterly alignment and connect to the existing 12-inch located near the intersection of Huntsville Road and Cunningham Lane. The Distribution Improvements Map located in Appendix A illustrates the location of the proposed transmission line.

The existing system configuration along Hwy. 16 currently includes an 8-inch waterline section that begins just east of Dead Horse Mountain Road, which has an east-west alignment along Hwy. 16 to nearly Cunningham Lane. The 8-inch line is tied on the east and west ends to existing 12-inch waterlines. As the demands increase in the southeast region of the City and in the City of Elkins, the existing 8-inch begins to restrict the amount of flow that can be conveyed to the area. Due to this “bottleneck” limiting the conveyance of water, the analysis identified future supply, pressure and fire flow issues during maximum day periods.

The construction of the proposed 18-inch waterline will eliminate the bottleneck, and the issues observed in the hydraulic model during the analysis can be mitigated. It is important to note that additional sections of 18-inch transmission along Hwy. 16 will need to be constructed in later phases of work to meet the projected domestic and fire demands for this region of the system.

2017 – 2022 Distribution Line Improvements

In conjunction with the large diameter transmission line proposed for Phase I, there is also the need for a 12-inch diameter distribution waterline in the southern region of the water service boundary near the City of Greenland. Currently, the cities of Greenland and West Fork, the Mt. Olive Rural Water Association, as well as a number of industrial customers and the Fayetteville airport along S. School Avenue (Hwy. 71) are basically served from a dead-end waterline. Another water conveyance issue for this region is due to a bottleneck that is formed by a segment of 8-inch waterline approximately 3,200-lf in length. This segment of 8-inch waterline is located between the 12-inch waterlines located at the Hwy. 71 intersections of Lester Avenue and Whillock Street. As demands increase, the velocities in the segment of 8-inch increase significantly and decreases the amount of water that can be conveyed to this region of the system. The construction of the recommended 12-inch line will also provide this region with an alternate route for receiving water, help to mitigate possible instances of interrupted water service due to waterline breaks and assist with fire protection, especially at the Greenland schools located south of the Fayetteville airport. Two different alignments for the recommended waterline have been analyzed, and are described in more detail below.

Option 1

The 12-inch (Line I-2a) alignment included in *Option 1* ties into the existing 12-inch waterline stub-out located south of the Fulbright Expressway (see Appendix A). The waterline is approximately 6,300-lf and takes a generally southern alignment along the railroad to Sunrise Mountain Rd. The proposed line then heads east along Sunrise Mountain Rd. and connects into the existing 12-inch waterline on Hwy. 71.

Option 2

The alignment for this option ties into the existing 12-inch located at the intersection of S. School Avenue and Lester Street (see Appendix A). The waterline heads south along School Avenue and ties just north of Sunrise Mountain Rd. into the existing 12-inch along Hwy. 71. This waterline (Line I-2b) segment is approximately 3,100-lf in length.

Recommendation

According to the analysis, either option will meet the intended general purpose of providing the necessary flows to meet the domestic demand and fire protection needs of this region of the system. However, *Option 1* would give the City a separate water feed into the area and could help maintain water service to customers if the existing 8 and 12-inch waterlines along Hwy. 71 should experience a line break. *Option 1* may also be easier to construct due to the fact that its alignment is generally located in more undeveloped, open ground. Based on existing maps, there will be numerous obstacles to navigate with the second option's alignment located along Hwy. 71 (i.e. traffic, business's/industries, existing utilities, etc.).

Based on MWY's preliminary analysis and review of the area, Option 1 seems to be the best selection for constructing the proposed 12-inch waterline (Line I-2a). However, MWY suggests that a more detailed preliminary study be performed during design to determine the most feasible and economical option for construction.

There are also a number of areas identified throughout the distribution system that currently have unnecessary dead-end waterlines in close proximity to other existing lines. If feasible, a general recommendation is to mitigate dead-end waterlines within the interior of the distribution system. This interconnectivity of the water system allows for better fire protection, water quality and assures that there are multiple feeds into an area in case of waterline breaks. Referring to the Distribution Improvements Map, the construction of a 12-inch waterline (Line I-3) on Persimmon Street and 8-inch waterlines on Vanike Drive (Line I-4), Hunters Ridge (Line I-5) and Victoria Lane (Line I-6) will eliminate existing dead-end waterlines and help these areas provide an adequate water supply and/or assist with fire protection. MWY also recommends connecting the existing 12-inch line and 24-inch transmission line at the intersection of 15th Street and Morningside Drive to assist with the conveyance of water in this region (Line I-7).

2017 – 2022 Development Waterline Improvements

As stated in *Section 6.4*, a 12-inch water transmission main grid is recommended to help support fire flows and to supply peak demands within the system. The recommended spacing of the transmission main grid is approximately one-half mile. In practice, the line spacing will depend on the corridors available for water line construction, the location of existing and future streets and the pattern of development in a given area.

The development waterlines shown on the Distribution Improvements Map in Appendix A illustrate approximate recommended locations for 12-inch waterlines based upon the hydraulic model analysis. The need to construct a given 12-inch waterline main is not tied to any particular phase of work but moreover dependent on the location and intensity of the development. It is also important to note that the waterline alignments shown in the map may change due to development corridors, buildout, etc.

2017 – 2022 Miscellaneous System Improvements

During MWY's analysis of the system, it was observed during a normal maximum day operation that the Kessler Mountain tanks failed to completely reach their overflow level of 32 feet msl. Based on the hydraulic model, there were instances where the tanks operated approximately 6-ft below the overflow, which equates to a loss of approximately 2,000,000 gallons of storage in the system between the two tanks. To verify the model results, historical SCADA (supervisory control and data acquisition) data for the Kessler Mountain tank levels was requested from BWD. Review of the data received verified that the tanks would operate at a lower level during peak demand periods of the year. According to the model, as the demands in the system increase in the future phases, this issue with the Kessler tanks becomes worse.

Along with the Baxter Lane, Rodgers Drive and Markham Hill tanks, the Kessler Mountain tanks are located on the Primary pressure plane and are supplied water directly from BWD. However, the model analysis showed that the other Primary pressure plane tanks did not react in the same manner as Kessler, and in fact operated closer to their overflow levels.

To determine the reason for the decrease in water conveyance to the Kessler Mountain tanks during maximum day conditions, MWY analyzed the transmission mains which are primarily responsible for conveying water to the tanks. Currently, 36-inch and 30-inch diameter transmission mains are the primary source of water supply to the existing tanks. The 36-inch is directly tied to both the 42-inch and 36-inch transmission lines that come from BWD and enter the Fayetteville system on the northeast side of the city. The analysis revealed; however, that the existing transmission lines were not at full capacity and were not the reason for issues with the Kessler tanks.

The next step was to determine if demands in the system had reached the point that an additional transmission line from BWD was necessary. Preliminary planning has begun to construct a 48-inch diameter transmission main from BWD in the future. The proposed line will provide Fayetteville with a third supply line from BWD and assist the City with meeting

Analyzing the system in the western region shows that there are multiple connections from the existing 36-inch transmission line to other distribution lines in the system between Van Ashe Street and the Kessler tanks. These connections are necessary for maintaining a steady water supply and for providing fire protection to all customers on the west side of the water service area. However, as the daily demands in the western region increase, more water must be conveyed through these connection points to meet the immediate needs of the customers. Since the Kessler Mountain tanks are located at the end of this transmission and at a higher elevation, there is less pressure in the system to help fill the tanks.

FIGURE 7.2.6
Kessler Mountain Pump Station



2017 – 2022 Fire Flow Analysis

The exhibits contained in Section C2 of Appendix C shows the areas that experienced marginal fire flows according to the hydraulic model during the analysis. As with the existing fire flow analysis, most areas that are below the minimum fire flow requirement are on dead-end waterlines and/or in the peripheral of the distribution system. Section C2 also contains the corresponding tables which detail the marginal fire flow areas identified in the exhibits.

During the fire flow analysis, it was observed in the model that approximately four (4) locations consistently experienced a significant pressure drop (i.e. negative pressures) during a fire flow of surrounding area fire nodes. These low pressures, in turn, were a significant influence on the reported amount of water a fire node could flow while maintaining adequate pressure in other areas of the distribution system. A review of these locations showed that they are located in high elevated areas and supplied by water lines less than 4 inches in diameter. The areas in question are located along Dinsmore Trail in the western region of the system, Wallin Mountain Road in the southern region, and Ed Edwards Road and Van Hoose Drive in the southeast part of the water service area. According to the analysis, the pressure in all of these areas decrease to negative digits during a 1,500-gpm fire flow. However, once these areas were removed from the critical search range, the observed issues were practically mitigated at the surrounding fire flow locations.

Based on this information, MWY recommends that mitigation measures be implemented that would isolate these small areas, at least during a fire event, so that the customers located in the aforementioned areas will maintain adequate pressure during a fire flow event. One way to achieve this is by installing booster pumps at these locations. The pump stations would be configured to operate only when sensing a pre-determined pressure drop in these problem areas. Once the station detects this drop in pressure, the pumps operate to maintain a constant downstream pressure until the fire event is over. The booster pump locations are shown on the Distribution Improvements Map in Appendix A.

It is important to note that the fire flow analysis assumes that all recommended Phase I improvements are in place and operational.

2017 – 2022 Low Pressure Analysis

The low pressure analysis was performed during the maximum day for the design year of 2022. Exhibit D2, located in Appendix D, illustrates the approximate location of the low pressure areas. The majority of the low pressure areas can be attributed to high ground elevations and areas in the outer reaches of the system. Table D2 details the results from the low pressure analysis.

2017 – 2022 Required Maintenance Improvements

The existing water system contains approximately 160 miles of pipeline less than 6-inch in diameter that are incapable of supporting minimum fire flow requirements. Approximately 50 miles of these pipelines are galvanized or cast iron pipes 2½-

inches or smaller, which have a maximum service life of approximately 30-40 years. Galvanized pipes develop significant accumulation of scale on the inside of the pipe, generally reducing their functional diameter by 90% in the service life period. The smaller cast iron waterlines experience similar tuberculation, with similar decreases in capacity. These waterlines can be more susceptible to developing small leaks which may cause an increase in water loss and reduced pressure in localized areas. MWY recommends that the City replace these waterlines as soon as financially possible.

While many of the small diameter and older waterlines were included in the hydraulic water model, the model cannot accurately portray deteriorated or leaking waterlines and how they operate within the distribution system.

2017 – 2022 Water Quality Analysis

As discussed in the “*Existing Water Quality Analysis*” paragraph of *Section 7.1*, MWY performed a water quality analysis for the Fayetteville distribution system with Phase I improvements installed to evaluate any problem areas that may exist within the future system. The water quality analysis consisted of evaluating the chlorine residual and residence time (age) of the water.

Exhibit E2 illustrates the areas that are predicted to experience marginal chlorine residuals (0.01 or lower) within the Fayetteville water service area, according to the hydraulic model. Referring to the figure, most of these areas are located at the extremities of the distribution system, on dead-end waterlines and/or areas with little usage. The chlorine residual issues in the areas around the Canterbury tank that were previously discussed in the Existing System analysis are also present in this phase as well. As stated, MWY recommends that the City perform additional analyses to determine what measure(s) should be implemented to mitigate the low residual issue.

The areas that experienced marginal residence time (age) are shown in Exhibit F2 in Appendix F. The water is considered marginal when the age of the water is three (3) days or greater at any location within the system. Most of the marginal areas shown in Exhibit F2 are located on a dead-end waterline which creates an operational problem with keeping the water fresh. In the low demand areas, looping dead-end waterlines back into the main grid of the system may improve the water age. However, as previously stated in this report, some areas are not conducive and/or cost prohibitive to loop dead-end waterlines due to location and/or topography. In these areas it is recommended to create a waterline flushing schedule to help maintain “fresh” water.

As with the fire flow and low pressure analysis, the water quality analysis is performed with all recommended improvements for Phase I added to the hydraulic model.

7.3 Phase II Improvements, 2022 - 2027

The main improvements recommended for this phase includes the continued installation of an 18-inch distribution waterline in the southeastern region of Fayetteville. Due to the expected growth in this area, the new waterline will assist the City in providing adequate water service and fire protection.

2022 – 2027 System Storage Requirements

Based on the criteria discussed in the Phase I improvements section, there is no recommendation to construct additional system storage during this phase of work.

2022 – 2027 System Transmission Line Improvements

Phase II improvements include the construction of approximately 4,900 linear feet of 18-inch transmission (Line II-2) along Huntsville Road (Hwy. 16) in the southeastern region of the system. The proposed line is necessary to meet the continued growth of the area and the bulk sale customer, Elkins. This section of the 18-inch transmission will tie into the existing 12-inch waterline located west of Hoddle Place and run generally east along Hwy. 16 and connect to an existing 8-inch waterline on Tallgrass Drive. The map located in Appendix A illustrates the proposed route of the waterline.

2022 – 2027 Distribution Line Improvements

Based on the analysis, no specific distribution lines will need to be constructed during this phase of work, except for ones driven by development.

2022 – 2027 Development Waterline Improvements

As stated, the proposed 12-inch waterline grid is based upon the hydraulic model analysis and engineering judgment. Depending on where and when development occurs will play a large roll on the exact location, route and time period for the construction of the 12-inch waterline grid. The need to construct a given 12-inch waterline main will depend on the location and intensity of development.

2022 – 2027 Fire Flow Analysis

Exhibits illustrating the fire flow results for the City of Fayetteville for the 10-year design horizon are located in Section C3 of Appendix C. Referring to the exhibit, most areas that demonstrated fire flow deficiencies were located on small diameter waterlines and/or dead-end waterlines. The corresponding tables detailing the results from the fire flow analysis are also located in Section C3 of Appendix C. Usually, fire flow deficiencies located in the main system grid can be mitigated by looping the dead-end waterlines back into the waterline grid. However, as stated previously in this report, each area that experiences fire flow problems will need to be addressed by the Fayetteville staff on a case by case basis to determine the

feasibility of the project. As with Phase I, the results from the fire flow analysis assume that all recommended Phase II improvements are in place.

2022 – 2027 Low Pressure Analysis

Exhibit D3 and Table D3 located in Appendix D show the locations and the detailed results, respectively, of the areas which could not meet the minimum requirement of 40-psi during a typical maximum day. Most of these areas can attribute the low pressure to high elevations. The low pressure analysis results assume all recommended improvements are in place.

2022 – 2027 Water Quality Analysis

Exhibit E3 shows the areas that experienced a marginal chlorine residual (0.01 mg/L or less) within the distribution system during the design horizon of 2027. As with the previous phases, a majority of these areas are located on dead-end waterlines and/or the outer limits of the water service boundary. The exception is the previous discussed area surrounding the Canterbury tank located off of Canterbury Lane in the eastern region of the city.

Exhibit F3 shows the results from the residence time (age) analysis. As mentioned, the water is considered to be “old” if during a typical average day the water has been in the distribution system for three days or longer.

Due to the almost daily change of the water distribution system, MWY recommends that a water quality analysis be performed closer to the actual design years to achieve more accurate results. Chlorine residuals and residence time of water are greatly affected by demands and the configuration of the distribution system waterline grid.

7.4 Phase III Improvements, 2027 - 2037

Phase III of this report analyzes the long-range improvements needed to aid in the systems everyday operations and maintain an adequate water supply to all residents located within the distribution system. Based on the hydraulic water model analysis, these improvements include a new transmission waterline from Beaver Water District (BWD) to the City of Fayetteville. This phase of work also includes the continued construction of an 18-inch “in-system” transmission line proposed in the Phase I and Phase II improvements for the southeastern region of the system.

2027 - 2037 System Storage Requirements

Referring to Table 6.1.1 in *Section 6.0* of this report, the system storage calculated for the City of Fayetteville will reach approximately 23.0-MG by the end of the design horizon of 2037. The total existing system storage equals approximately 29-MG, and should be sufficient to meet the needs of the water system based on discussions between MWY and the ADH. It is also important to note that the recommendations detailed in this report include the construction of an additional 0.92-MG (i.e. East Fayetteville, Township) of storage, which will increase the City’s total system storage to approximately 30-MG.

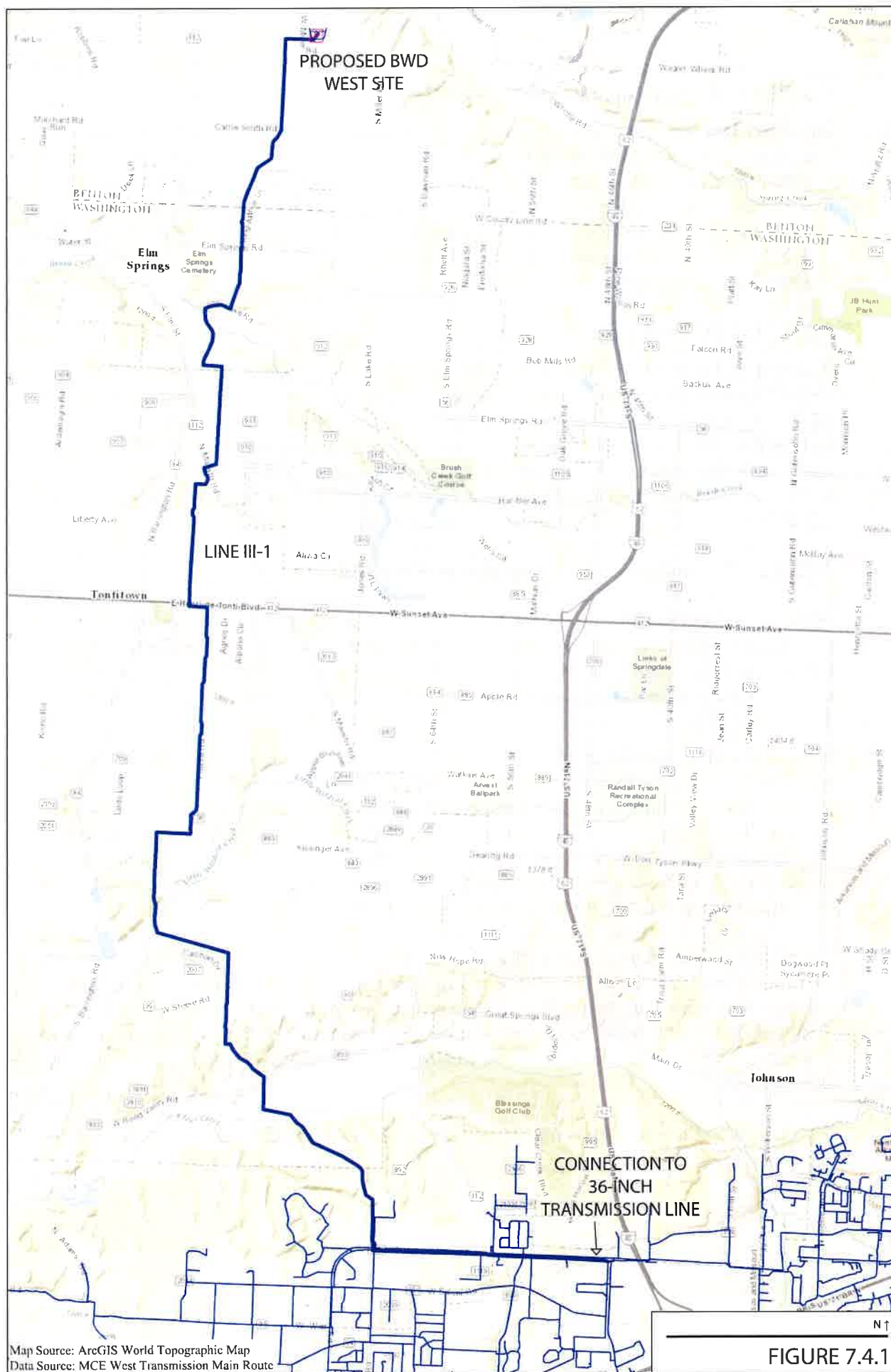
2027 – 2037 Transmission Line from Beaver Water District

With the projected population growth for the city of Fayetteville, Phase III improvements include an additional transmission line to be constructed from BWD. Currently the city is fed through two transmission lines from BWD, a 36-inch and a 42-inch. These two lines tie into the system on the east side of Fayetteville in the vicinity of Joyce Street and Crossover Road (Hwy 265).

Figure 7.4.1 illustrates the approximate route for a new 48-inch transmission line (Line III-1) from BWD. Using the hydraulic model, the analysis showed that a 48-inch diameter transmission line would need to be constructed to transport the amount of water the City of Fayetteville will require for continued growth. Referring to Figure 7.4.1, the transmission line is recommended to tie into the west side of the Fayetteville distribution system. This scenario will give the city multiple points of entry into the distribution system and help with the conveyance of water to the western region of the water service area.

The proposed 48-inch transmission line will be constructed from a new BWD site that will be constructed near the City of Elm Springs. From the new west side BWD site, the 48-inch transmission line will head in a general southerly route through the cities of Elm Springs and Tontitown crossing Hwy 412 and continuing south into the City of Fayetteville. The line will turn east and tie into the existing 36-inch waterline located near the Hwy 112 and Van Asche Drive intersection.

A transmission line route study has already been completed by others, and the City has begun to procure easements.



2027-2037 System Transmission Line Improvements

Phase III improvements include the construction of approximately 4,800 linear feet of 18-inch transmission (Line III-2) along Huntsville Road (Hwy. 16) in the southeastern region of the system. This line segment connects to the 18-inch waterline at Tall Grass Drive that was constructed in Phase II and heads east along Hwy. 16 toward Elkins. An approximate proposed route of the waterline is shown on the Distribution Improvements Map located in Appendix A. The proposed waterline ends approximately 2,250 feet past Mally Wagon Rd and ties to the existing 8-inch waterline located south of Hwy. 16. The long-term plan for this area is for the proposed 18-inch line to tie to a recommended 12-inch waterline that will eventually convey water directly to the Elkins meter located on Van Hoose Drive. However, the proposed 12-inch waterline as well as the other 12-inch lines shown south of Huntsville Road (see Appendix A) are recommended to be built contingent on development in that area.

The proposed 18-inch waterline will give the distribution system more water conveyance to the customers located in the southeastern regions of the City and help meet the growing needs of the City of Elkins, a bulk sale customer of Fayetteville. This will also help maintain the pressures requirements at the Elkins meter and greatly improve the fire protection capacity in this region.

2027 – 2037 Distribution Line Improvements

Based on the analysis, no specific distribution lines will need to be constructed during this phase of work, except for ones driven by development.

2027 – 2037 Development Waterline Improvements

As stated, the proposed 12-inch waterline grid is based upon the hydraulic model analysis and engineering judgment. The need to construct a given 12-inch waterline main will depend on the location and intensity of development. The proposed waterlines are shown on the Distribution Improvements Map. The waterline alignments are an approximation and could change depending on the growth structure and rate of the developing areas.

2027 – 2037 Fire Flows

According to the analysis, the areas shown in the exhibits contained in Section C4 experienced marginal fire flows during the 20-year design horizon. As with the other two phases, most of these areas are located on dead-end waterlines and/or in the peripheral of the water service area. As stated, the most effective way to improve the fire flow production in these areas is to loop these dead-end waterlines back into the main grid of the distribution system. However, because of topography and/or the location of some of these areas it may be cost prohibitive. Section C4 also contains the corresponding tables detailing the results shown in the exhibits. It is recommended to re-evaluate the fire flow analysis at 5-year intervals to test the impact of development demands and new waterline construction.

2027 – 2037 Low Pressure Areas

The low pressure analysis was performed during the maximum day for the design year 2037. Exhibit D4 shows the areas that were below the 45-psi requirement during a typical maximum day. Table D4 details the results from the low pressure analysis.

2027 - 2037 Water Quality Analysis

Exhibit E4 illustrates the areas that are predicated to experience a marginal chlorine residual (0.01 mg/L or less) within the distribution system. These areas are generally the same as the ones identified in the previous phases, and are mostly located on dead-end waterlines and/or areas with low demand. Referring to Exhibit E4, the areas located in the vicinity of Canterbury tank still remain an issue, according to the model analysis. As stated previously, further analysis is recommended to verify the model results and to determine what measures should be done to increase chlorine residual levels in this area.

Exhibit F4 shows the areas from the residence time (age) analysis. As with the chlorine residual analysis, these areas are mostly located on dead-end waterlines and can be improved by looping the waterlines back into the system grid.

As stated in the previous two phases of this report, the daily change of the water distribution system makes it difficult to accurately recommend future water quality improvements to the system. Chlorine residuals and residence time (age) of the water is greatly affected by demands and the configuration of the distribution system waterline grid. Therefore, MWY recommends that a water quality analysis be performed closer to the actual design years to achieve more accurate results.

7.5 Automated Valve Assistance

The scope of the Master Plan included review and input regarding the existing 24-inch pressure sustaining valves on the 42-inch and 36-inch transmission lines from Beaver Water District. The existing valves are located approximately 250 feet south of U.S. Highway 412. This location is approximately 13,000 linear feet downstream of the existing surge tank located on the high point of the transmission system on Fitzgerald Mountain. Available information reviewed included the following:

- A report entitled “Existing 36-Inch Water Transmission Line Rehabilitation Study,” dated August 2005, by Black & Veatch in association with McClelland Consulting Engineers.
- A draft design memorandum entitled “Existing Transmission Main Pipeline Modifications,” dated November 2005 by Black & Veatch.
- A memorandum entitled “Preliminary Transient Analysis”, dated August 29, 2006, by Black & Veatch.
- A set of construction plans entitled “Existing 36-Inch and 42-Inch Water Transmission Main Modifications,” dated September 2006, by Black & Veatch.
- Submittal data dated January 2007 for the construction project referenced in the plans described above.
- A report entitled “Beaver Water District City of Fayetteville Water Transmission Main System Pressure Surge Analysis,” dated May 9, 2016, by Flow Science Incorporated.

Based on review of the above information, the existing pressure sustaining valves were recommended and installed to maintain a minimum water level in the surge tank and positive pressure in the transmission pipeline for all flow scenarios.

The addition of the 42-inch transmission pipeline provided greater system capacity by lowering friction loss, resulting in a lower hydraulic gradient. However, the lower hydraulic gradient during normal demand periods is not adequate to force water into the surge tank. In fact, the surge tank may act as a vacuum relief valve during certain flow conditions, allowing open-channel (cascade) flow for limited distances in the pipeline. The report by Flow Science predicted that open-channel flow will occur for flows less than 19-MGD. This conclusion is similar to the findings of the Black & Veatch report dated August 2005, which predicted similar conditions at flowrates less than 20-MGD.

The Flow Science report also stated that operation of the pressure sustaining valves is NOT required for surge protection. However, the potential cascade flow condition may result in air entrainment in the transmission system, and minimum positive pressure in the pipeline is recommended to mitigate contamination from outside sources. The Arkansas Department of Health (ADH) generally requires a minimum of 20-psi in distribution systems, although the ADH may allow deviations for emergency, short duration conditions such as pressure surge events. During a recent discussion between the City of Fayetteville, MWY and ADH staff, it was stated that the ADH would allow pressures less than the minimum 20-psi if sufficient

justification can be provided. More research and analysis will be required to provide sufficient justification and confirm minimum allowable pressures approved by the ADH.

In order to provide minimum positive pressure in the system under most conditions, MWY concurs with the recommendations and analyses in the Black & Veatch and Flow Science reports that use of the pressure sustaining valves is recommended.

The existing surge tank is 100-foot tall and has a 20-foot diameter, based on the Plans of Record produced by MWY in 1971, with a bottom elevation of approximately 1,600 feet. These plans also indicate a high point flowline for the 36-inch pipeline at 1,593 feet, which sets the top of pipe at approximately 1,596 feet. The existing pressure sustaining valves, based on the design plans prepared by Black & Veatch, have centerline elevations of approximately 1,371 feet.

Based on submittal information, the existing pressure sustaining valves are CLA-VAL Catalog Number 131-BWYBCSENKCX Pressure Sustaining Valves and were supplied by Instrument & Supply, Inc. (ISI) of Hot Springs. The minimum pressure set point will depend on the minimum pipeline pressure required by the ADH. The valves also have a closing speed control. The Preliminary Transient Analysis report by Black & Veatch concluded that a five (5) minute closing time was long enough to minimize surge events.

All work associated with the existing automated valves has been completed by MWY based on the scope agreed upon in the Agreement (see *Section 1.0*). However, per an addendum to the original agreement, MWY will continue to assist the City with analyzing the automated valves. MWY, and the City, plan to coordinate with ISI, ADH and Beaver Water District in the near future to determine the working condition, confirmation of set points and operation of the automated valves.

7.6 General Recommendations

General Recommendations Regarding Updating of Hydraulic Model

For this report, MWY's scope included updating the City of Fayetteville's working 2015 model using the City's current GIS. A majority of effort required in a Master Plan study is the creation/updating and calibration of the hydraulic water model, which is a necessary and useful tool for the analysis of any portion of the water system. The primary purpose of a Master Plan study is to determine major transmission and distribution system improvements to serve the overall system. However, as future developments are planned, the hydraulic water model should be used to determine specific distribution grid requirements in the area surrounding the proposed developments, such as the "minor" water distribution lines suggested in this Report.

Therefore, it is strongly recommended that the hydraulic water model be continually updated and calibrated at frequent intervals in the future. By keeping the model up-to-date, analysis for proposed developments and future master plan updates may be made with greater ease and should require significantly less effort.

Predicted Growth Patterns vs. Extraordinary Development

The recommendations shown in this report were based on the predicted growth patterns, which were input into the hydraulic water model. Although these predicted growth patterns were determined using the best available information (i.e. Fayetteville-City Plan 2030, census information, etc.), some areas may experience growth rates which exceed predicted rates. In particular, large isolated development projects may be proposed which are not included in the expected "normal" growth projections used in the study. The possibility for this type of situation is most probable in the West and Northwest growth areas, although any area of the system could experience higher-than-expected growth. Other locations which could exceed projected growth expectations are the Inner and Outer Core areas as described in the adopted City Plan 2030 and which boundaries are shown in Figure 2.2. The City's current emphasis is to enact regulations and employ strategies to support increased growth, or infill, in the downtown areas of the city (*see Chapter 10-City Plan 2030*). Due to this planning strategy and anticipated demand increase affect this should cause for the downtown area, the future growth percentage attributed to the Inner and Outer Core areas is higher than the Existing Service Area (i.e. Non-Core area) as shown in Figure 3.4.1. However, due to the difficulty of projecting the potential types and timing of future developments for these areas, the Inner and Outer Core areas could experience demands above what is projected in this report.

In these cases, more analysis may be necessary to determine the required infrastructure improvements to serve these areas.

Water Demands vs. Design Horizon Improvements

The phased recommendations for each design horizon in this report were based on projected population, projected water demands and historical growth data for the City of Fayetteville. Thus, the improvements were recommended based on actual water demands more than a particular year. Depending on growth patterns, the actual construction time and sequence of each recommended infrastructure improvement in each design horizon can change based on actual population and water demands.

Water System Maintenance, Replacement and Internal Capacity Improvements

This study focuses on the hydraulic analysis of the distribution system to determine flows and water quality in the existing distribution system as well as projecting future growth, demands and new infrastructure improvements to meet the City's needs for the next 20-years. The studies scope did not include evaluating the requirements for pipeline, pump station, and water storage asset maintenance and replacement, as these tasks are accomplished on an as-needed basis.

Water systems experience increased system maintenance costs and water loss as the system ages due to leaks, meter wear and other operational issues. The Mt. Sequoyah and Markham tanks were installed in 1959 and the original 36-inch transmission line from the Beaver Water District was constructed in 1969. All of these aging assets will require increased maintenance and ultimately need to be replaced depending on their operational performance. The City currently has a separate priority list of water mains to be replaced based upon maintenance requirements.

The City also has potential and/or planned Arkansas Highway and Transportation Department (AHTD) relocations for existing distribution infrastructure that will be necessary due to street widenings, etc. Programming these costs and impacts is beyond the scope of this study, but must be integrated into future operations, maintenance and rate setting studies and programs.

This section of the report details the opinion of probable costs for the recommended improvements outlined in *Section 7.0*. The opinion of probable cost is based on current costs of similar construction and is provided for planning and budgetary purposes. Actual costs may vary depending upon actual bids received. The costs shown for all phases reflect present values (2017 dollars) and include an estimate of construction contingencies and engineering fees. The estimates do not include right-of-way expenses, legal fees or acquisition of permits.

Tables 8.1 through 8.3 summarize the opinions of probable cost for Phases I, II, III. Each table separates cost breakdowns for major transmission lines (16 inches and greater) and minor waterlines (12 inches and less), as well as proposed storage tanks and pump stations.

The improvements for each design phase are shown in the Distribution Improvements Map located in Appendix A. Appendix G contains a more detailed opinion of probable cost itemization for the improvements that are summarized in Tables 8.1 through 8.3.

The table below summarizes the total costs for each design horizon.

Opinion of Probable Cost Summarization

Phase	Year	Construction Cost	Engineering & Contingencies	Design Phase Total
I	2017 - 2022	\$ 7,792,000	\$ 1,948,000	\$ 9,740,000
II	2022 - 2027	\$ 750,000	\$ 187,500	\$ 937,500
III	2027 - 2037	\$ 29,084,000	\$ 7,271,000	\$ 36,355,000
Total		\$ 37,626,000	\$ 9,406,500	\$ 47,032,500

Table 8.1
Summary of Opinion of Probable Costs
Phase I Improvements (2017-2022)
Fayetteville Water Master Plan

Line/Item No.	Approximate Length (LF)	Pipe Diameter (in)	Approximate Cost per LF *	Construction Cost (Rounded)	Engineering & Contingencies (25%)	Total Project Cost **
East Fayetteville Improvements						
EF-1	3,800	18	\$ 143.95	\$ 550,000.00	\$ 137,500.00	\$ 687,500.00
EF-2	4,600	18	\$ 142.88	\$ 660,000.00	\$ 165,000.00	\$ 825,000.00
EF-3	3,030	8	\$ 41.72	\$ 130,000.00	\$ 32,500.00	\$ 162,500.00
Tank-1	0.75-MG Elevated Tank			\$ 2,000,000.00	\$ 500,000.00	\$ 2,500,000.00
PS-1	East Fayetteville Pump Station			\$ 450,000.00	\$ 112,500.00	\$ 562,500.00
AV-1	Altitude Valve & Vault (E. Paul Pray Dr.)			\$ 70,000.00	\$ 17,500.00	\$ 87,500.00
Subtotal East Fayetteville Improvements				\$ 3,860,000.00	\$ 965,000.00	\$ 4,825,000.00
Township Improvements						
T-1	400	8	\$ 57.50	\$ 23,000.00	\$ 5,750.00	\$ 28,750.00
T-2	570	8	\$ 57.37	\$ 33,000.00	\$ 8,250.00	\$ 41,250.00
Tank-2	0.25-MG Elevated Tank			\$ 1,210,000.00	\$ 302,500.00	\$ 1,512,500.00
PS-2	Township Pump Station			\$ 250,000.00	\$ 62,500.00	\$ 312,500.00
Subtotal Township Improvements				\$ 1,516,000.00	\$ 379,000.00	\$ 1,895,000.00
Benson Mountain Improvements						
B-1	2,200	4	\$ 12.59	\$ 28,000.00	\$ 7,000.00	\$ 35,000.00
PS-3	Benson Mountain Pump Station			\$ 215,000.00	\$ 53,750.00	\$ 268,750.00
Subtotal Benson Mountain Improvements				\$ 243,000.00	\$ 60,750.00	\$ 303,750.00
Major Water Line Improvements (16" Pipes and Greater)						
I-1	5,300	18	\$ 158.11	\$ 840,000.00	\$ 210,000.00	\$ 1,050,000.00
Subtotal Major Waterline Improvements				\$ 840,000.00	\$ 210,000.00	\$ 1,050,000.00
Minor Water Line Improvements (12" Pipes and Less)						
I-2a	6,260	12	\$ 87.88	\$ 550,000.00	\$ 137,500.00	\$ 687,500.00
I-3	200	12	\$ 95.00	\$ 19,000.00	\$ 4,750.00	\$ 23,750.00
I-4	50	8	\$ 164.00	\$ 8,000.00	\$ 2,000.00	\$ 10,000.00
I-5	420	8	\$ 63.33	\$ 27,000.00	\$ 6,750.00	\$ 33,750.00
I-6	460	8	\$ 72.17	\$ 33,000.00	\$ 8,250.00	\$ 41,250.00
I-7	25	12	\$ 416.00	\$ 11,000.00	\$ 2,750.00	\$ 13,750.00
Subtotal Minor Waterline Improvements				\$ 648,000.00	\$ 162,000.00	\$ 810,000.00
Other Improvements						
PS-4	Kessler Mountain Pump Station			\$ 520,000.00	\$ 130,000.00	\$ 650,000.00
PS-5	Booster Pump Stations (3 total)			\$ 150,000.00	\$ 37,500.00	\$ 187,500.00
PRV-1	Pressure Reducing Valve (Van Hoose Dr.)			\$ 15,000.00	\$ 3,750.00	\$ 18,750.00
Subtotal Other Improvements				\$ 685,000.00	\$ 171,250.00	\$ 856,250.00
Total				\$ 7,792,000.00	\$ 1,948,000.00	\$ 9,740,000.00

* Detailed Cost Itemizations for Waterlines & E. Fayetteville Improvements are shown in Appendix G

** Above costs do not include easement acquisition costs, legal fees, debt service, or other ancillary costs. All costs shown reflect present value (2017 costs) and have not been adjusted for future inflation. All costs are opinions for budget purposes based on best available information, and actual costs may vary depending upon actual bids received.

Table 8.2
Summary of Opinion of Probable Costs
Phase II Improvements (2022-2027)
Fayetteville Water Master Plan

Line No.	Approximate Length (LF)	Pipe Diameter (in)	Approximate Cost per LF *	Construction Cost (Rounded)	Engineering & Contingencies (25%)	Total Project Cost **
Major Water Line Improvements (16" Pipes and Greater)						
II-1	4,900	18	\$ 153.06	\$ 750,000.00	\$ 187,500.00	\$ 937,500.00
Subtotal Major Waterline Improvements				\$ 750,000.00	\$ 187,500.00	\$ 937,500.00
Minor Water Line Improvements (12" Pipes and Less)						
Subtotal Minor Waterline Improvements				\$ -	\$ -	\$ -
Other Improvements						
Subtotal Other Improvements				\$ -	\$ -	\$ -
Total				\$ 750,000.00	\$ 187,500.00	\$ 937,500.00

* Detailed Cost Itemizations for Waterline Improvements are shown in Appendix G

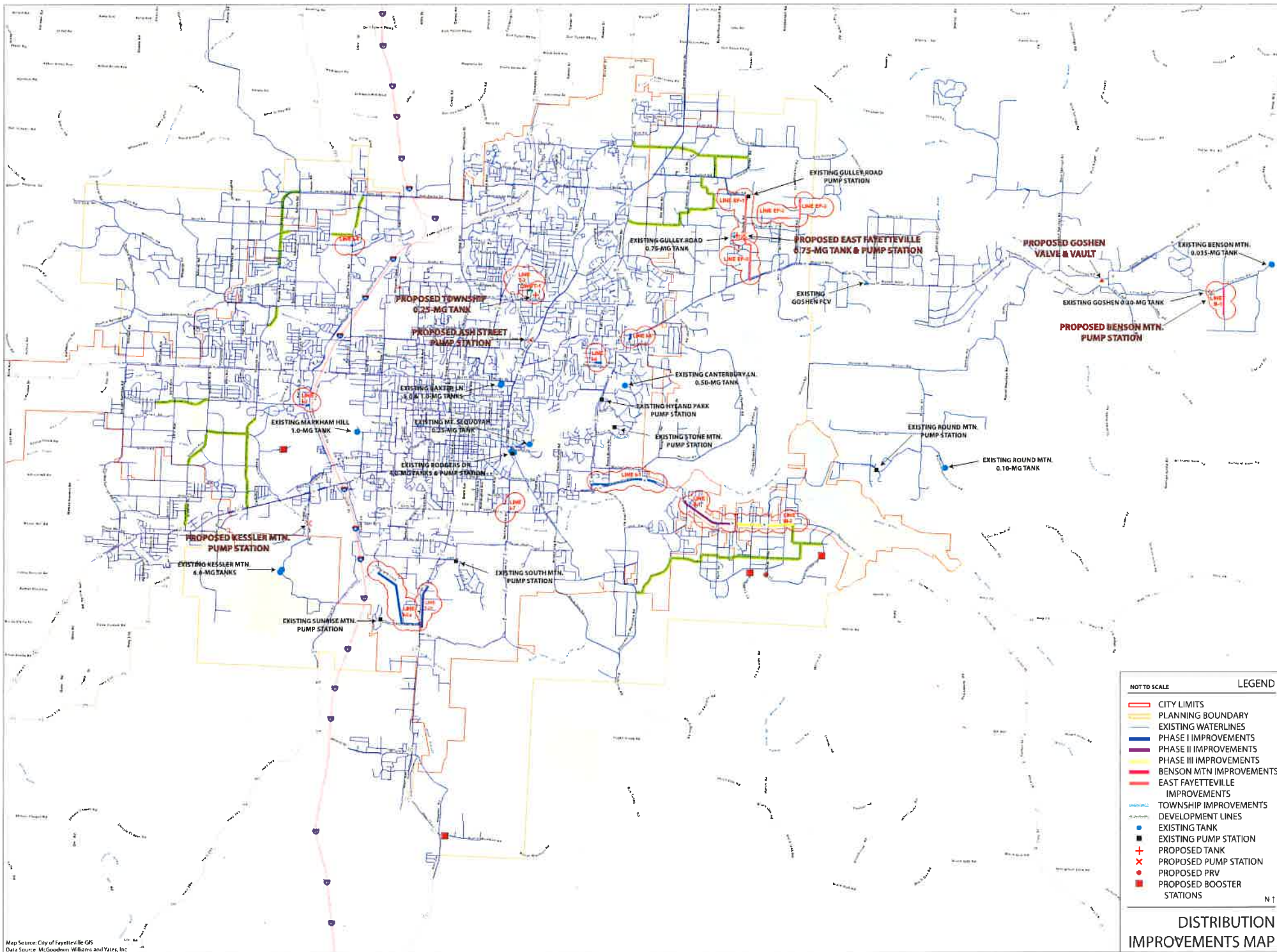
** Above costs do not include easement acquisition costs, legal fees, debt service, or other ancillary costs. All costs shown reflect present value (2017 costs) and have not been adjusted for future inflation. All costs are opinions for budget purposes based on best available information, and actual costs may vary depending upon actual bids received.

Table 8.3
Summary of Opinion of Probable Costs
Phase III Improvements (2027-2037)
Fayetteville Water Master Plan

Line No.	Approximate Length (LF)	Pipe Diameter (in)	Approximate Cost per LF *	Construction Cost (Rounded)	Engineering & Contingencies (25%)	Total Project Cost **
Major Water Line Improvements (16" Pipes and Greater)						
III-1	57,850	48	\$ 491.69	\$ 28,444,000.00	\$ 7,111,000.00	\$ 35,555,000.00
III-2	4,500	18	\$ 141.22	\$ 640,000.00	\$ 160,000.00	\$ 800,000.00
Subtotal Major Waterline Improvements				\$ 29,084,000.00	\$ 7,271,000.00	\$ 36,355,000.00
Minor Water Line Improvements (12" Pipes and Less)						
Subtotal Minor Waterline Improvements				\$ -	\$ -	\$ -
Other Improvements						
Subtotal Other Improvements				\$ -	\$ -	\$ -
Total				\$ 29,084,000.00	\$ 7,271,000.00	\$ 36,355,000.00

* Detailed Cost Itemizations for Waterline Improvements are shown in Appendix G

** Above costs do not include easement acquisition costs, legal fees, debt service, or other ancillary costs. All costs shown reflect present value (2017 costs) and have not been adjusted for future inflation. All costs are opinions for budget purposes based on best available information, and actual costs may vary depending upon actual bids received.



**FAYETTEVILLE WATER USAGE RECORDS
AS OBTAINED FROM BEAVER WATER DISTRICT**

		TOTAL USAGE FOR MONTH (1,000 gal)	AVERAGE DAY FOR MONTH (1,000 gal)	MAXIMUM DAY (1,000 gal)	RATIO OF MAX DAY TO AVE DAY	RATIO OF MAX DAY TO AV. DAY FOR YEAR
JANUARY	1975	166,170	5,360	6,330	1.18	1.19
FEBRUARY	1975	136,310	4,868	5,600	1.15	1.05
MARCH	1975	141,870	4,576	5,510	1.20	1.04
APRIL	1975	153,240	5,108	6,220	1.22	1.17
MAY	1975	156,440	5,046	6,300	1.25	1.19
JUNE	1975	150,890	5,030	6,570	1.31	1.24
JULY	1975	180,730	5,830	7,590	1.30	1.43
AUGUST	1975	177,170	5,715	7,230	1.27	1.36
SEPTEMBER	1975	175,180	5,839	7,080	1.21	1.33
OCTOBER	1975	173,700	5,603	6,610	1.18	1.24
NOVEMBER	1975	163,520	5,422	6,350	1.17	1.19
DECEMBER	1975	165,280	5,331	7,140	1.34	1.34
TOTAL USAGE		1,940,500		AVERAGE		1.23
AVERAGE DAY FOR THE YEAR 1975			5,316	MAXIMUM RATIO		1.43
JANUARY	1976	165,360	5,334	6,230	1.17	1.05
FEBRUARY	1976	159,640	5,504	7,670	1.39	1.29
MARCH	1976	165,820	5,349	6,560	1.23	1.11
APRIL	1976	166,740	5,558	6,470	1.16	1.09
MAY	1976	168,930	5,449	7,500	1.38	1.26
JUNE	1976	185,560	6,185	8,960	1.45	1.51
JULY	1976	206,190	6,651	8,930	1.34	1.51
AUGUST	1976	203,780	6,574	7,820	1.19	1.32
SEPTEMBER	1976	205,090	6,836	8,350	1.22	1.41
OCTOBER	1976	190,680	6,151	7,510	1.22	1.27
NOVEMBER	1976	176,780	5,893	7,100	1.20	1.20
DECEMBER	1976	175,600	5,665	6,830	1.21	1.15
TOTAL USAGE		2,170,170		AVERAGE		1.26
AVERAGE DAY FOR THE YEAR 1976			5,929	MAXIMUM RATIO		1.51

		TOTAL USAGE FOR MONTH (1,000 gal)	AVERAGE DAY FOR MONTH (1,000 gal)	MAXIMUM DAY (1,000 gal)	RATIO OF MAX DAY TO AVE DAY	RATIO OF MAX DAY TO AV. DAY FOR YEAR
JANUARY	1977	198,770	6,412	7,370	1.15	1.09
FEBRUARY	1977	175,210	6,258	7,300	1.17	1.08
MARCH	1977	187,390	6,044	7,190	1.19	1.06
APRIL	1977	189,170	6,306	7,950	1.26	1.17
MAY	1977	206,900	6,674	8,440	1.26	1.24
JUNE	1977	229,450	7,648	10,420	1.36	1.54
JULY	1977	232,230	7,491	10,110	1.35	1.49
AUGUST	1977	223,310	7,203	8,860	1.23	1.31
SEPTEMBER	1977	222,120	7,404	8,990	1.21	1.33
OCTOBER	1977	210,990	6,806	8,120	1.19	1.20
NOVEMBER	1977	196,300	6,543	7,500	1.15	1.11
DECEMBER	1977	203,190	6,554	7,660	1.17	1.13
TOTAL USAGE		2,475,030		AVERAGE		1.23
AVERAGE DAY FOR THE YEAR 1977			6,781	MAXIMUM RATIO		1.54
JANUARY	1978	212,903	6,867	8,063	1.17	1.11
FEBRUARY	1978	197,430	7,051	8,410	1.19	1.16
MARCH	1978	206,350	6,656	8,830	1.33	1.21
APRIL	1978	197,000	6,567	7,840	1.19	1.08
MAY	1978	209,180	6,747	8,600	1.27	1.18
JUNE	1978	207,405	6,914	8,590	1.24	1.18
JULY	1978	256,210	8,265	10,710	1.30	1.47
AUGUST	1978	261,640	8,440	12,890	1.53	1.77
SEPTEMBER	1978	249,450	8,315	10,200	1.23	1.40
OCTOBER	1978	230,970	7,451	9,000	1.21	1.24
NOVEMBER	1978	211,550	7,052	8,280	1.17	1.14
DECEMBER	1978	213,450	6,885	8,480	1.23	1.17
TOTAL USAGE		2,653,538		AVERAGE		1.26
AVERAGE DAY FOR THE YEAR 1978			7,270	MAXIMUM RATIO		1.77

		TOTAL USAGE FOR MONTH (1,000 gal)	AVERAGE DAY FOR MONTH (1,000 gal)	MAXIMUM DAY (1,000 gal)	RATIO OF MAX DAY TO AVE DAY	RATIO OF MAX DAY TO AV. DAY FOR YEAR
JANUARY	1979	233,450	7,531	9,370	1.24	1.24
FEBRUARY	1979	214,180	7,649	9,650	1.26	1.27
MARCH	1979	233,020	7,517	9,210	1.23	1.21
APRIL	1979	224,010	7,467	10,510	1.41	1.39
MAY	1979	212,270	6,847	9,170	1.34	1.21
JUNE	1979	224,440	7,481	9,850	1.32	1.30
JULY	1979	235,080	7,583	9,560	1.26	1.26
AUGUST	1979	242,390	7,819	10,490	1.34	1.38
SEPTEMBER	1979	252,160	8,405	10,100	1.20	1.33
OCTOBER	1979	261,520	8,436	10,560	1.25	1.39
NOVEMBER	1979	223,430	7,448	9,020	1.21	1.19
DECEMBER	1979	213,160	6,876	8,460	1.23	1.12
TOTAL USAGE		2,769,110		AVERAGE		1.27
AVERAGE DAY FOR THE YEAR 1979			7,587	MAXIMUM RATIO		1.39
JANUARY	1980	219,380	7,077	9,430	1.33	1.13
FEBRUARY	1980	210,380	7,254	9,510	1.31	1.14
MARCH	1980	222,190	7,167	8,690	1.21	1.05
APRIL	1980	234,110	7,804	9,300	1.19	1.12
MAY	1980	233,380	7,528	8,950	1.19	1.08
JUNE	1980	249,270	8,309	10,430	1.26	1.26
JULY	1980	325,070	10,486	12,080	1.15	1.45
AUGUST	1980	344,640	11,117	15,380	1.38	1.85
SEPTEMBER	1980	280,630	9,354	10,830	1.16	1.30
OCTOBER	1980	261,790	8,445	10,660	1.26	1.28
NOVEMBER	1980	229,110	7,637	9,270	1.21	1.12
DECEMBER	1980	231,380	7,464	9,250	1.24	1.11
TOTAL USAGE		3,041,330		AVERAGE		1.24
AVERAGE DAY FOR THE YEAR 1980			8,310	MAXIMUM RATIO		1.85

		TOTAL USAGE FOR MONTH (1,000 gal)	AVERAGE DAY FOR MONTH (1,000 gal)	MAXIMUM DAY (1,000 gal)	RATIO OF MAX DAY TO AVE DAY	RATIO OF MAX DAY TO AV. DAY FOR YEAR
JANUARY	1981	234,070	7,551	8,890	1.18	1.13
FEBRUARY	1981	216,910	7,747	8,710	1.12	1.11
MARCH	1981	229,190	7,393	8,890	1.20	1.13
APRIL	1981	240,650	8,022	9,390	1.17	1.20
MAY	1981	228,830	7,382	9,560	1.30	1.22
JUNE	1981	239,790	7,993	9,980	1.25	1.27
JULY	1981	261,220	8,426	9,900	1.17	1.26
AUGUST	1981	245,640	7,924	10,600	1.34	1.35
SEPTEMBER	1981	248,960	8,299	11,740	1.41	1.50
OCTOBER	1981	251,060	8,099	9,120	1.13	1.16
NOVEMBER	1981	230,170	7,672	9,400	1.23	1.20
DECEMBER	1981	232,760	7,508	9,220	1.23	1.18
TOTAL USAGE		2,859,250		AVERAGE		1.23
AVERAGE DAY FOR THE YEAR 1981			7,834	MAXIMUM RATIO		1.50
JANUARY	1982	241,400	7,787	9,730	1.25	1.22
FEBRUARY	1982	228,040	8,144	10,640	1.31	1.33
MARCH	1982	234,960	7,579	9,330	1.23	1.17
APRIL	1982	238,540	7,951	9,140	1.15	1.15
MAY	1982	226,830	7,317	9,120	1.25	1.14
JUNE	1982	226,800	7,560	8,960	1.19	1.12
JULY	1982	272,510	8,791	11,260	1.28	1.41
AUGUST	1982	264,080	8,519	10,230	1.20	1.28
SEPTEMBER	1982	274,370	9,146	10,750	1.18	1.35
OCTOBER	1982	261,280	8,428	10,580	1.26	1.33
NOVEMBER	1982	224,030	7,468	9,300	1.25	1.17
DECEMBER	1982	220,130	7,101	10,150	1.43	1.27
TOTAL USAGE		2,912,970		AVERAGE		1.24
AVERAGE DAY FOR THE YEAR 1982			7,981	MAXIMUM RATIO		1.41

		TOTAL USAGE FOR MONTH (1,000 gal)	AVERAGE DAY FOR MONTH (1,000 gal)	MAXIMUM DAY (1,000 gal)	RATIO OF MAX DAY TO AVE DAY	RATIO OF MAX DAY TO AV. DAY FOR YEAR
JANUARY	1983	230,430	7,433	9,510	1.28	1.20
FEBRUARY	1983	212,960	7,606	9,220	1.21	1.17
MARCH	1983	218,280	7,041	8,620	1.22	1.09
APRIL	1983	215,730	7,191	8,940	1.24	1.13
MAY	1983	213,270	6,880	8,330	1.21	1.05
JUNE	1983	221,040	7,368	9,380	1.27	1.19
JULY	1983	262,030	8,453	10,780	1.28	1.36
AUGUST	1983	322,100	10,390	13,140	1.26	1.66
SEPTEMBER	1983	274,250	9,142	11,800	1.29	1.49
OCTOBER	1983	248,440	8,014	9,550	1.19	1.21
NOVEMBER	1983	226,250	7,542	8,660	1.15	1.10
DECEMBER	1983	240,590	7,761	9,680	1.25	1.22
TOTAL USAGE		2,885,370		AVERAGE		1.24
AVERAGE DAY FOR THE YEAR 1983			7,905	MAXIMUM RATIO		1.66
JANUARY	1984	267,020	8,614	9,950	1.16	1.16
FEBRUARY	1984	232,220	8,008	9,150	1.14	1.07
MARCH	1984	238,940	7,708	10,050	1.30	1.17
APRIL	1984	236,360	7,879	9,040	1.15	1.05
MAY	1984	246,670	7,957	9,770	1.23	1.14
JUNE	1984	267,380	8,913	10,720	1.20	1.25
JULY	1984	284,550	9,179	11,100	1.21	1.29
AUGUST	1984	325,280	10,493	12,450	1.19	1.45
SEPTEMBER	1984	286,120	9,504	11,690	1.23	1.36
OCTOBER	1984	268,770	8,670	10,180	1.17	1.19
NOVEMBER	1984	248,260	8,275	10,010	1.21	1.17
DECEMBER	1984	237,790	7,671	9,400	1.23	1.10
TOTAL USAGE		3,139,360		AVERAGE		1.20
AVERAGE DAY FOR THE YEAR 1984			8,577	MAXIMUM RATIO		1.45

		TOTAL USAGE FOR MONTH (1,000 gal)	AVERAGE DAY FOR MONTH (1,000 gal)	MAXIMUM DAY (1,000 gal)	RATIO OF MAX DAY TO AVE DAY	RATIO OF MAX DAY TO AV. DAY FOR YEAR
JANUARY	1985	252,990	8,161	9,830	1.20	1.13
FEBRUARY	1985	235,010	8,393	9,770	1.16	1.12
MARCH	1985	247,270	7,976	10,210	1.28	1.17
APRIL	1985	248,940	8,298	9,550	1.15	1.09
MAY	1985	252,320	8,139	9,510	1.17	1.09
JUNE	1985	261,720	8,724	10,720	1.23	1.23
JULY	1985	348,110	11,229	14,230	1.27	1.63
AUGUST	1985	292,210	9,426	12,260	1.30	1.40
SEPTEMBER	1985	279,920	9,331	12,310	1.32	1.41
OCTOBER	1985	273,870	8,835	10,090	1.14	1.16
NOVEMBER	1985	246,650	8,222	9,910	1.21	1.13
DECEMBER	1985	248,170	8,005	9,530	1.19	1.09
TOTAL USAGE		3,187,180		AVERAGE		1.22
AVERAGE DAY FOR THE YEAR 1985			8,732	MAXIMUM RATIO		1.63
JANUARY	1986	257,510	8,307	10,260	1.24	1.16
FEBRUARY	1986	232,360	8,299	9,640	1.16	1.09
MARCH	1986	252,020	8,130	10,440	1.28	1.18
APRIL	1986	250,930	8,364	10,090	1.21	1.14
MAY	1986	259,810	8,381	10,430	1.24	1.17
JUNE	1986	276,120	9,204	11,610	1.26	1.31
JULY	1986	342,880	11,061	14,560	1.32	1.64
AUGUST	1986	291,220	9,394	12,980	1.38	1.46
SEPTEMBER	1986	281,110	9,370	10,440	1.11	1.18
OCTOBER	1986	286,900	9,255	11,230	1.21	1.26
NOVEMBER	1986	254,080	8,469	12,680	1.50	1.43
DECEMBER	1986	256,570	8,275	10,300	1.24	1.16
TOTAL USAGE		3,241,510		AVERAGE		1.26
AVERAGE DAY FOR THE YEAR 1986			8,881	MAXIMUM RATIO		1.64

		TOTAL USAGE FOR MONTH (1,000 gal)	AVERAGE DAY FOR MONTH (1,000 gal)	MAXIMUM DAY (1,000 gal)	RATIO OF MAX DAY TO AVE DAY	RATIO OF MAX DAY TO AV. DAY FOR YEAR
JANUARY	1987	265,210	8,555	10,250	1.20	1.11
FEBRUARY	1987	242,040	8,644	10,720	1.24	1.16
MARCH	1987	259,830	8,382	9,650	1.15	1.04
APRIL	1987	267,430	8,914	12,210	1.37	1.32
MAY	1987	271,960	8,773	10,510	1.20	1.13
JUNE	1987	301,880	10,063	12,850	1.28	1.39
JULY	1987	307,420	9,917	12,110	1.22	1.31
AUGUST	1987	347,470	11,209	15,040	1.34	1.62
SEPTEMBER	1987	293,210	9,774	12,000	1.23	1.30
OCTOBER	1987	288,850	9,318	11,320	1.21	1.22
NOVEMBER	1987	270,420	9,014	10,780	1.20	1.16
DECEMBER	1987	265,840	8,575	10,680	1.25	1.15
TOTAL USAGE		3,381,560		AVERAGE		1.24
AVERAGE DAY FOR THE YEAR 1987			9,265	MAXIMUM RATIO		1.62
JANUARY	1988	288,820	9,317	10,820	1.16	1.09
FEBRUARY	1988	273,470	9,430	10,780	1.14	1.08
MARCH	1988	274,400	8,852	10,280	1.16	1.03
APRIL	1988	266,460	8,882	10,500	1.18	1.05
MAY	1988	320,500	10,339	13,480	1.30	1.35
JUNE	1988	358,740	11,958	15,250	1.28	1.53
JULY	1988	318,990	10,290	12,070	1.17	1.21
AUGUST	1988	377,810	12,187	14,870	1.22	1.49
SEPTEMBER	1988	336,490	11,216	14,560	1.30	1.46
OCTOBER	1988	293,900	9,481	10,740	1.13	1.08
NOVEMBER	1988	269,380	8,979	12,050	1.34	1.21
DECEMBER	1988	265,380	8,561	10,380	1.21	1.04
TOTAL USAGE		3,644,340		AVERAGE		1.22
AVERAGE DAY FOR THE YEAR 1988			9,957	MAXIMUM RATIO		1.53

		TOTAL USAGE FOR MONTH (1,000 gal)	AVERAGE DAY FOR MONTH (1,000 gal)	MAXIMUM DAY (1,000 gal)	RATIO OF MAX DAY TO AVE DAY	RATIO OF MAX DAY TO AV. DAY FOR YEAR
JANUARY	1989	280,810	9,058	10,710	1.18	1.09
FEBRUARY	1989	268,500	9,589	10,810	1.13	1.10
MARCH	1989	287,050	9,259	10,660	1.15	1.09
APRIL	1989	284,450	9,481	11,530	1.22	1.18
MAY	1989	285,420	9,207	11,270	1.22	1.15
JUNE	1989	285,500	9,516	11,340	1.19	1.16
JULY	1989	302,100	9,745	13,410	1.38	1.37
AUGUST	1989	346,440	11,175	13,500	1.21	1.38
SEPTEMBER	1989	318,340	10,611	13,410	1.26	1.37
OCTOBER	1989	323,490	10,430	11,950	1.15	1.22
NOVEMBER	1989	292,960	9,765	11,230	1.15	1.15
DECEMBER	1989	304,020	9,807	11,270	1.15	1.15
TOTAL USAGE		3,579,080		AVERAGE		1.20
AVERAGE DAY FOR THE YEAR 1989			9,806	MAXIMUM RATIO		1.38
JANUARY	1990	301,070	9,712	11,020	1.13	1.08
FEBRUARY	1990	267,540	9,555	10,420	1.09	1.02
MARCH	1990	284,680	9,183	10,740	1.17	1.05
APRIL	1990	283,330	9,444	10,620	1.12	1.04
MAY	1990	296,300	9,558	11,600	1.21	1.14
JUNE	1990	295,830	9,861	12,140	1.23	1.19
JULY	1990	362,990	11,709	14,550	1.24	1.42
AUGUST	1990	390,070	12,583	15,690	1.25	1.54
SEPTEMBER	1990	359,750	11,992	15,670	1.31	1.53
OCTOBER	1990	320,030	10,324	11,350	1.10	1.11
NOVEMBER	1990	290,750	9,692	11,340	1.17	1.11
DECEMBER	1990	275,130	8,875	11,730	1.32	1.15
TOTAL USAGE		3,727,470		AVERAGE		1.20
AVERAGE DAY FOR THE YEAR 1990			10,212	MAXIMUM RATIO		1.54

		TOTAL USAGE FOR MONTH (1,000 gal)	AVERAGE DAY FOR MONTH (1,000 gal)	MAXIMUM DAY (1,000 gal)	RATIO OF MAX DAY TO AVE DAY	RATIO OF MAX DAY TO AV. DAY FOR YEAR
JANUARY	1991	287,470	9,273	10,680	1.15	1.03
FEBRUARY	1991	251,530	8,983	10,380	1.16	1.00
MARCH	1991	269,350	8,689	10,380	1.19	1.00
APRIL	1991	275,810	9,194	11,110	1.21	1.07
MAY	1991	300,440	9,950	13,350	1.34	1.29
JUNE	1991	355,430	11,848	14,680	1.24	1.42
JULY	1991	436,880	14,093	17,540	1.24	1.69
AUGUST	1991	381,640	12,311	16,460	1.34	1.59
SEPTEMBER	1991	333,190	11,106	13,200	1.19	1.27
OCTOBER	1991	330,660	10,666	12,170	1.14	1.17
NOVEMBER	1991	288,380	9,613	11,170	1.16	1.08
DECEMBER	1991	270,590	8,729	10,370	1.19	1.00
TOTAL USAGE		3,781,370		AVERAGE		1.22
AVERAGE DAY FOR THE YEAR 1991			10,360	MAXIMUM RATIO		1.69

JANUARY	1992	293,080	9,454	10,830	1.15	1.07
FEBRUARY	1992	277,380	9,565	10,920	1.14	1.08
MARCH	1992	288,370	9,302	11,500	1.24	1.13
APRIL	1992	295,200	9,840	12,340	1.25	1.22
MAY	1992	312,970	10,096	12,060	1.19	1.19
JUNE	1992	296,720	9,891	11,590	1.17	1.14
JULY	1992	332,090	10,713	12,770	1.19	1.26
AUGUST	1992	337,880	10,899	12,840	1.18	1.27
SEPTEMBER	1992	326,350	10,878	12,710	1.17	1.25
OCTOBER	1992	333,520	10,759	12,150	1.13	1.20
NOVEMBER	1992	294,640	9,821	11,570	1.18	1.14
DECEMBER	1992	322,860	10,415	11,940	1.15	1.18
TOTAL USAGE		3,711,060		AVERAGE		1.18
AVERAGE DAY FOR THE YEAR 1992			10,140	MAXIMUM RATIO		1.27

		TOTAL USAGE FOR MONTH (1,000 gal)	AVERAGE DAY FOR MONTH (1,000 gal)	MAXIMUM DAY (1,000 gal)	RATIO OF MAX DAY TO AVE DAY	RATIO OF MAX DAY TO AV. DAY FOR YEAR
JANUARY	1993	311,610	10,052	12,240	1.22	1.15
FEBRUARY	1993	270,300	9,654	11,660	1.21	1.10
MARCH	1993	299,320	9,655	12,960	1.34	1.22
APRIL	1993	289,670	9,656	12,110	1.25	1.14
MAY	1993	294,120	9,488	11,380	1.20	1.07
JUNE	1993	303,610	10,120	11,940	1.18	1.12
JULY	1993	387,020	12,485	17,690	1.42	1.67
AUGUST	1993	431,070	13,905	17,950	1.29	1.69
SEPTEMBER	1993	337,780	11,259	14,110	1.25	1.33
OCTOBER	1993	333,946	10,772	13,260	1.23	1.25
NOVEMBER	1993	307,705	10,257	12,636	1.23	1.19
DECEMBER	1993	309,595	9,987	12,027	1.20	1.13
TOTAL USAGE		3,875,746		AVERAGE		1.26
AVERAGE DAY FOR THE YEAR 1993			10,618	MAXIMUM RATIO		1.69
JANUARY	1994	335,380	10,819	12,957	1.20	1.12
FEBRUARY	1994	291,373	10,406	11,865	1.14	1.03
MARCH	1994	314,692	10,151	12,178	1.20	1.05
APRIL	1994	313,147	10,438	11,848	1.14	1.02
MAY	1994	335,151	10,811	12,790	1.18	1.11
JUNE	1994	391,764	13,059	18,940	1.45	1.64
JULY	1994	374,721	12,088	15,857	1.31	1.37
AUGUST	1994	429,222	13,846	16,751	1.21	1.45
SEPTEMBER	1994	399,981	13,333	15,668	1.18	1.35
OCTOBER	1994	379,187	12,232	18,122	1.48	1.57
NOVEMBER	1994	331,235	11,041	12,640	1.14	1.09
DECEMBER	1994	324,718	10,475	12,937	1.24	1.12
TOTAL USAGE		4,220,571		AVERAGE		1.24
AVERAGE DAY FOR THE YEAR 1994			11,563	MAXIMUM RATIO		1.64

		TOTAL USAGE FOR MONTH (1,000 gal)	AVERAGE DAY FOR MONTH (1,000 gal)	MAXIMUM DAY (1,000 gal)	RATIO OF MAX DAY TO AVE DAY	RATIO OF MAX DAY TO AV. DAY FOR YEAR
JANUARY	1995	342,632	11,053	12,840	1.16	1.03
FEBRUARY	1995	310,789	11,100	13,809	1.24	1.11
MARCH	1995	338,558	10,921	12,611	1.15	1.01
APRIL	1995	333,603	11,120	14,145	1.27	1.14
MAY	1995	346,257	11,170	13,411	1.20	1.08
JUNE	1995	370,824	12,361	14,999	1.21	1.20
JULY	1995	405,717	13,088	16,293	1.24	1.31
AUGUST	1995	558,695	18,022	21,505	1.19	1.73
SEPTEMBER	1995	422,219	14,074	18,714	1.33	1.50
OCTOBER	1995	401,847	12,963	15,952	1.23	1.28
NOVEMBER	1995	352,414	11,747	13,364	1.14	1.07
DECEMBER	1995	360,406	11,626	14,141	1.22	1.14
TOTAL USAGE		4,543,961		AVERAGE		1.22
AVERAGE DAY FOR THE YEAR 1995			12,449	MAXIMUM RATIO		1.73
JANUARY	1996	375,887	12,125	14,758	1.22	1.18
FEBRUARY	1996	367,152	12,660	15,108	1.19	1.21
MARCH	1996	358,951	11,579	15,738	1.36	1.26
APRIL	1996	346,303	11,543	13,827	1.20	1.10
MAY	1996	382,803	12,348	15,265	1.24	1.22
JUNE	1996	407,801	13,593	16,537	1.22	1.32
JULY	1996	439,318	14,172	17,921	1.26	1.43
AUGUST	1996	459,641	14,827	19,187	1.29	1.53
SEPTEMBER	1996	391,354	13,045	16,679	1.28	1.33
OCTOBER	1996	380,671	12,280	15,758	1.28	1.26
NOVEMBER	1996	334,990	11,166	13,874	1.24	1.11
DECEMBER	1996	335,816	10,833	13,301	1.23	1.06
TOTAL USAGE		4,580,687		AVERAGE		1.25
AVERAGE DAY FOR THE YEAR 1996			12,516	MAXIMUM RATIO		1.53

		TOTAL USAGE FOR MONTH (1,000 gal)	AVERAGE DAY FOR MONTH (1,000 gal)	MAXIMUM DAY (1,000 gal)	RATIO OF MAX DAY TO AVE DAY	RATIO OF MAX DAY TO AV. DAY FOR YEAR
JANUARY	1997	356,199	11,490	15,748	1.37	1.28
FEBRUARY	1997	312,321	11,154	13,445	1.21	1.09
MARCH	1997	347,376	11,206	14,373	1.28	1.17
APRIL	1997	341,175	11,373	13,985	1.23	1.13
MAY	1997	366,860	11,834	14,750	1.25	1.20
JUNE	1997	383,888	12,796	17,140	1.34	1.39
JULY	1997	462,395	14,916	20,525	1.38	1.67
AUGUST	1997	441,895	14,255	19,730	1.38	1.60
SEPTEMBER	1997	416,440	13,881	19,882	1.43	1.61
OCTOBER	1997	385,595	12,439	16,031	1.29	1.30
NOVEMBER	1997	351,883	11,729	15,383	1.31	1.25
DECEMBER	1997	332,691	10,732	14,959	1.39	1.21
TOTAL USAGE		4,498,718		AVERAGE		1.32
AVERAGE DAY FOR THE YEAR 1997			12,325	MAXIMUM RATIO		1.67
JANUARY	1998	353,572	11,406	15,293	1.34	1.15
FEBRUARY	1998	326,673	11,667	15,482	1.33	1.17
MARCH	1998	358,963	11,579	14,822	1.28	1.12
APRIL	1998	345,437	11,515	15,122	1.31	1.14
MAY	1998	395,249	12,750	16,665	1.31	1.25
JUNE	1998	428,363	14,279	18,447	1.29	1.39
JULY	1998	536,351	17,302	23,821	1.38	1.79
AUGUST	1998	521,245	16,814	22,296	1.33	1.68
SEPTEMBER	1998	488,627	16,288	21,612	1.33	1.63
OCTOBER	1998	399,458	12,886	16,306	1.27	1.23
NOVEMBER	1998	351,685	11,723	13,826	1.18	1.04
DECEMBER	1998	342,793	11,058	13,319	1.20	1.00
TOTAL USAGE		4,848,416		AVERAGE		1.30
AVERAGE DAY FOR THE YEAR 1998			13,283	MAXIMUM RATIO		1.79

		TOTAL USAGE FOR MONTH (1,000 gal)	AVERAGE DAY FOR MONTH (1,000 gal)	MAXIMUM DAY (1,000 gal)	RATIO OF MAX DAY TO AVE DAY	RATIO OF MAX DAY TO AV. DAY FOR YEAR
JANUARY	1999	357,939	11,546	14,402	1.25	1.12
FEBRUARY	1999	312,336	11,155	13,746	1.23	1.07
MARCH	1999	340,454	10,982	12,814	1.17	1.00
APRIL	1999	348,345	11,612	13,561	1.17	1.05
MAY	1999	366,014	11,807	13,990	1.18	1.09
JUNE	1999	379,897	12,663	16,202	1.28	1.26
JULY	1999	460,412	14,852	21,632	1.46	1.68
AUGUST	1999	593,377	19,141	23,564	1.23	1.83
SEPTEMBER	1999	428,008	14,267	18,945	1.33	1.47
OCTOBER	1999	416,741	13,443	15,643	1.16	1.22
NOVEMBER	1999	350,589	11,686	13,497	1.15	1.05
DECEMBER	1999	340,836	10,995	13,190	1.20	1.03
TOTAL USAGE		4,694,948		AVERAGE		1.24
AVERAGE DAY FOR THE YEAR 1999			12,863	MAXIMUM RATIO		1.83
JANUARY	2000	336,899	10,868	12,329	1.13	0.95
FEBRUARY	2000	333,945	11,515	13,157	1.14	1.01
MARCH	2000	340,175	10,973	13,036	1.19	1.00
APRIL	2000	344,703	11,490	13,816	1.20	1.06
MAY	2000	375,384	12,109	15,320	1.27	1.17
JUNE	2000	363,959	12,132	16,221	1.34	1.24
JULY	2000	437,073	14,099	18,826	1.34	1.44
AUGUST	2000	610,211	19,684	23,407	1.19	1.80
SEPTEMBER	2000	522,414	17,414	23,771	1.37	1.82
OCTOBER	2000	395,538	12,759	15,766	1.24	1.21
NOVEMBER	2000	348,236	11,608	13,651	1.18	1.05
DECEMBER	2000	363,733	11,733	13,616	1.16	1.04
TOTAL USAGE		4,772,270		AVERAGE		1.23
AVERAGE DAY FOR THE YEAR 2000			13,039	MAXIMUM RATIO		1.82

		TOTAL USAGE FOR MONTH (1,000 gal)	AVERAGE DAY FOR MONTH (1,000 gal)	MAXIMUM DAY (1,000 gal)	RATIO OF MAX DAY TO AVE DAY	RATIO OF MAX DAY TO AV. DAY FOR YEAR
JANUARY	2001	388,762	12,541	18,563	1.48	1.42
FEBRUARY	2001	319,261	11,402	12,962	1.14	0.99
MARCH	2001	342,434	11,046	13,091	1.19	1.00
APRIL	2001	372,863	12,429	16,418	1.32	1.26
MAY	2001	399,311	12,881	15,796	1.23	1.21
JUNE	2001	411,481	13,716	16,677	1.22	1.28
JULY	2001	472,216	15,233	19,130	1.26	1.46
AUGUST	2001	513,800	16,574	19,698	1.19	1.51
SEPTEMBER	2001	426,722	14,224	17,038	1.20	1.30
OCTOBER	2001	397,415	12,820	15,031	1.17	1.15
NOVEMBER	2001	383,487	12,783	20,393	1.60	1.56
DECEMBER	2001	341,368	11,012	13,200	1.20	1.01
TOTAL USAGE		4,769,120		AVERAGE		1.26
AVERAGE DAY FOR THE YEAR 2001			13,066	MAXIMUM RATIO		1.56
JANUARY	2002	369,418	11,917	13,690	1.15	1.00
FEBRUARY	2002	346,140	12,362	14,751	1.19	1.07
MARCH	2002	376,132	12,133	14,726	1.21	1.07
APRIL	2002	381,385	12,713	15,624	1.23	1.14
MAY	2002	418,080	13,486	16,658	1.24	1.21
JUNE	2002	427,808	14,260	17,844	1.25	1.30
JULY	2002	507,485	16,370	20,204	1.23	1.47
AUGUST	2002	546,578	17,632	23,630	1.34	1.72
SEPTEMBER	2002	495,004	16,500	18,940	1.15	1.38
OCTOBER	2002	438,051	14,131	16,431	1.16	1.20
NOVEMBER	2002	359,025	11,968	14,425	1.21	1.05
DECEMBER	2002	344,734	11,120	13,035	1.17	0.95
TOTAL USAGE		5,009,840		AVERAGE		1.21
AVERAGE DAY FOR THE YEAR 2002			13,726	MAXIMUM RATIO		1.72

		TOTAL USAGE FOR MONTH (1,000 gal)	AVERAGE DAY FOR MONTH (1,000 gal)	MAXIMUM DAY (1,000 gal)	RATIO OF MAX DAY TO AVE DAY	RATIO OF MAX DAY TO AV. DAY FOR YEAR
JANUARY	2003	363,197	11,716	13,728	1.17	1.03
FEBRUARY	2003	324,741	11,598	14,970	1.29	1.12
MARCH	2003	358,768	11,573	12,840	1.11	0.96
APRIL	2003	377,338	12,578	14,848	1.18	1.11
MAY	2003	387,755	12,508	14,708	1.18	1.10
JUNE	2003	418,900	13,963	17,547	1.26	1.31
JULY	2003	507,716	16,378	19,436	1.19	1.45
AUGUST	2003	587,768	18,960	26,239	1.38	1.96
SEPTEMBER	2003	436,825	14,561	17,884	1.23	1.34
OCTOBER	2003	420,284	13,558	15,045	1.11	1.12
NOVEMBER	2003	356,063	11,869	14,150	1.19	1.06
DECEMBER	2003	348,875	11,254	15,384	1.37	1.15
TOTAL USAGE		4,888,230		AVERAGE		1.22
AVERAGE DAY FOR THE YEAR 2003			13,392	MAXIMUM RATIO		1.96
JANUARY	2004	352,740	11,379	14,766	1.30	1.13
FEBRUARY	2004	346,840	11,960	13,826	1.16	1.06
MARCH	2004	362,983	11,709	13,953	1.19	1.07
APRIL	2004	358,696	11,957	14,749	1.23	1.13
MAY	2004	408,181	13,167	16,622	1.26	1.27
JUNE	2004	400,313	13,344	15,270	1.14	1.17
JULY	2004	411,667	13,280	17,240	1.30	1.32
AUGUST	2004	474,314	15,300	18,199	1.19	1.40
SEPTEMBER	2004	521,425	17,381	19,855	1.14	1.52
OCTOBER	2004	425,567	13,728	17,117	1.25	1.31
NOVEMBER	2004	354,768	11,826	14,445	1.22	1.11
DECEMBER	2004	356,279	11,493	14,245	1.24	1.09
TOTAL USAGE		4,773,773		AVERAGE		1.22
AVERAGE DAY FOR THE YEAR 2004			13,043	MAXIMUM RATIO		1.52

		TOTAL USAGE FOR MONTH (1,000 gal)	AVERAGE DAY FOR MONTH (1,000 gal)	MAXIMUM DAY (1,000 gal)	RATIO OF MAX DAY TO AVE DAY	RATIO OF MAX DAY TO AV. DAY FOR YEAR
JANUARY	2005	357,864	11,544	13,846	1.20	0.97
FEBRUARY	2005	328,516	11,733	13,619	1.16	0.95
MARCH	2005	360,308	11,623	13,990	1.20	0.98
APRIL	2005	364,166	12,139	14,035	1.16	0.98
MAY	2005	429,369	13,851	17,713	1.28	1.23
JUNE	2005	470,351	15,678	21,870	1.39	1.52
JULY	2005	559,036	18,033	23,269	1.29	1.62
AUGUST	2005	584,883	18,867	24,048	1.27	1.68
SEPTEMBER	2005	527,692	17,590	21,897	1.24	1.53
OCTOBER	2005	486,511	15,694	17,966	1.14	1.25
NOVEMBER	2005	389,203	12,973	14,942	1.15	1.04
DECEMBER	2005	377,889	12,190	15,300	1.26	1.07
TOTAL USAGE		5,235,788		AVERAGE		1.23
AVERAGE DAY FOR THE YEAR 2005			14,345	MAXIMUM RATIO		1.68
JANUARY	2006	385,845	12,447	14,188	1.14	0.96
FEBRUARY	2006	348,252	12,438	14,794	1.19	1.00
MARCH	2006	388,962	12,547	15,485	1.23	1.05
APRIL	2006	421,259	14,042	16,692	1.19	1.13
MAY	2006	473,568	15,276	19,125	1.25	1.29
JUNE	2006	508,352	16,945	20,461	1.21	1.39
JULY	2006	635,469	20,499	24,055	1.17	1.63
AUGUST	2006	592,230	19,104	25,124	1.32	1.70
SEPTEMBER	2006	461,339	15,378	17,610	1.15	1.19
OCTOBER	2006	444,301	14,332	17,637	1.23	1.19
NOVEMBER	2006	367,712	12,257	14,740	1.20	1.00
DECEMBER	2006	363,597	11,729	14,730	1.26	1.00
TOTAL USAGE		5,390,886		AVERAGE		1.21
AVERAGE DAY FOR THE YEAR 2006			14,770	MAXIMUM RATIO		1.70

		TOTAL USAGE FOR MONTH (1,000 gal)	AVERAGE DAY FOR MONTH (1,000 gal)	MAXIMUM DAY (1,000 gal)	RATIO OF MAX DAY TO AVE DAY	RATIO OF MAX DAY TO AV. DAY FOR YEAR
JANUARY	2007	379,361	12,237	14,567	1.19	1.03
FEBRUARY	2007	365,051	13,038	14,824	1.14	1.05
MARCH	2007	400,430	12,917	14,968	1.16	1.06
APRIL	2007	398,321	13,277	15,831	1.19	1.12
MAY	2007	424,073	13,680	16,058	1.17	1.13
JUNE	2007	437,549	14,585	17,680	1.21	1.25
JULY	2007	457,818	14,768	18,529	1.25	1.31
AUGUST	2007	642,365	20,721	25,418	1.23	1.79
SEPTEMBER	2007	488,238	16,275	19,666	1.21	1.39
OCTOBER	2007	449,211	14,491	15,915	1.10	1.12
NOVEMBER	2007	375,618	12,521	15,527	1.24	1.10
DECEMBER	2007	357,612	11,536	13,764	1.19	0.97
TOTAL USAGE		5,175,647		AVERAGE		1.19
AVERAGE DAY FOR THE YEAR 2007			14,180	MAXIMUM RATIO		1.79
JANUARY	2008	377,052	12,163	14,962	1.23	1.15
FEBRUARY	2008	360,143	12,419	14,172	1.14	1.09
MARCH	2008	396,152	12,779	16,444	1.29	1.26
APRIL	2008	374,347	12,478	14,467	1.16	1.11
MAY	2008	400,788	12,929	14,797	1.14	1.14
JUNE	2008	410,908	13,697	15,443	1.13	1.19
JULY	2008	472,105	15,229	19,227	1.26	1.48
AUGUST	2008	490,734	15,830	20,933	1.32	1.61
SEPTEMBER	2008	412,000	13,733	15,641	1.14	1.20
OCTOBER	2008	399,071	12,873	15,523	1.21	1.19
NOVEMBER	2008	334,549	11,152	13,967	1.25	1.07
DECEMBER	2008	334,207	10,781	14,675	1.36	1.13
TOTAL USAGE		4,762,056		AVERAGE		1.22
AVERAGE DAY FOR THE YEAR 2008			13,011	MAXIMUM RATIO		1.61

		TOTAL USAGE FOR MONTH (1,000 gal)	AVERAGE DAY FOR MONTH (1,000 gal)	MAXIMUM DAY (1,000 gal)	RATIO OF MAX DAY TO AVE DAY	RATIO OF MAX DAY TO AV. DAY FOR YEAR
JANUARY	2009	337,013	10,871	17,848	1.64	1.43
FEBRUARY	2009	331,630	11,844	15,878	1.34	1.28
MARCH	2009	341,277	11,009	13,247	1.20	1.06
APRIL	2009	334,823	11,161	13,683	1.23	1.10
MAY	2009	366,532	11,824	13,900	1.18	1.12
JUNE	2009	451,776	15,059	23,718	1.57	1.91
JULY	2009	510,837	16,479	19,363	1.18	1.56
AUGUST	2009	465,997	15,032	17,431	1.16	1.40
SEPTEMBER	2009	385,529	12,851	14,995	1.17	1.21
OCTOBER	2009	356,450	11,498	13,993	1.22	1.12
NOVEMBER	2009	330,420	11,014	13,739	1.25	1.10
DECEMBER	2009	328,599	10,600	12,794	1.21	1.03
TOTAL USAGE		4,540,883		AVERAGE		1.28
AVERAGE DAY FOR THE YEAR 2009			12,441	MAXIMUM RATIO		1.91
JANUARY	2010	367,422	11,852	14,650	1.24	1.11
FEBRUARY	2010	324,288	11,582	13,348	1.15	1.02
MARCH	2010	338,628	10,923	12,683	1.16	0.96
APRIL	2010	344,328	11,478	13,261	1.16	1.01
MAY	2010	366,915	11,836	15,001	1.27	1.14
JUNE	2010	451,801	15,060	19,086	1.27	1.45
JULY	2010	472,949	15,256	19,175	1.26	1.46
AUGUST	2010	625,218	20,168	23,119	1.15	1.76
SEPTEMBER	2010	440,265	14,676	19,490	1.33	1.48
OCTOBER	2010	411,709	13,281	17,922	1.35	1.36
NOVEMBER	2010	336,748	11,225	19,052	1.70	1.45
DECEMBER	2010	319,740	10,314	11,878	1.15	0.90
TOTAL USAGE		4,800,011		AVERAGE		1.26
AVERAGE DAY FOR THE YEAR 2010			13,151	MAXIMUM RATIO		1.76

		TOTAL USAGE FOR MONTH (1,000 gal)	AVERAGE DAY FOR MONTH (1,000 gal)	MAXIMUM DAY (1,000 gal)	RATIO OF MAX DAY TO AVE DAY	RATIO OF MAX DAY TO AV. DAY FOR YEAR
JANUARY	2011	337,128	10,875	13,660	1.26	1.01
FEBRUARY	2011	324,214	11,579	13,742	1.19	1.01
MARCH	2011	331,749	10,702	12,854	1.20	0.95
APRIL	2011	334,115	11,137	13,802	1.24	1.02
MAY	2011	356,480	11,499	13,687	1.19	1.01
JUNE	2011	493,988	16,466	19,528	1.19	1.44
JULY	2011	642,097	20,713	24,054	1.16	1.77
AUGUST	2011	603,358	19,463	28,064	1.44	2.07
SEPTEMBER	2011	481,471	16,049	20,784	1.30	1.53
OCTOBER	2011	395,726	12,765	15,487	1.21	1.14
NOVEMBER	2011	323,048	10,768	12,568	1.17	0.93
DECEMBER	2011	325,047	10,485	16,019	1.53	1.18
TOTAL USAGE		4,948,421		AVERAGE		1.26
AVERAGE DAY FOR THE YEAR 2011			13,557	MAXIMUM RATIO		2.07
JANUARY	2012	328,866	10,609	12,700	1.20	0.88
FEBRUARY	2012	315,962	10,895	12,789	1.17	0.88
MARCH	2012	433,964	13,999	16,434	1.17	1.13
APRIL	2012	368,662	12,289	16,084	1.31	1.11
MAY	2012	496,834	16,027	20,840	1.30	1.44
JUNE	2012	555,459	18,515	25,119	1.36	1.73
JULY	2012	669,890	21,609	25,067	1.16	1.73
AUGUST	2012	584,028	18,840	23,805	1.26	1.64
SEPTEMBER	2012	452,704	15,090	17,692	1.17	1.22
OCTOBER	2012	409,064	13,196	15,544	1.18	1.07
NOVEMBER	2012	360,251	12,008	13,906	1.16	0.96
DECEMBER	2012	328,652	10,602	12,445	1.17	0.86
TOTAL USAGE		5,304,336		AVERAGE		1.22
AVERAGE DAY FOR THE YEAR 2012			14,493	MAXIMUM RATIO		1.73

		TOTAL USAGE FOR MONTH (1,000 gal)	AVERAGE DAY FOR MONTH (1,000 gal)	MAXIMUM DAY (1,000 gal)	RATIO OF MAX DAY TO AVE DAY	RATIO OF MAX DAY TO AV. DAY FOR YEAR
JANUARY	2013	351,207	11,329	12,782	1.13	0.93
FEBRUARY	2013	317,939	11,355	13,285	1.17	0.97
MARCH	2013	368,454	11,886	14,360	1.21	1.05
APRIL	2013	358,072	11,936	13,761	1.15	1.00
MAY	2013	363,060	11,712	14,006	1.20	1.02
JUNE	2013	450,345	15,012	20,018	1.33	1.46
JULY	2013	588,963	18,999	24,242	1.28	1.77
AUGUST	2013	550,624	17,762	24,376	1.37	1.78
SEPTEMBER	2013	539,987	18,000	23,324	1.30	1.70
OCTOBER	2013	400,770	12,928	16,141	1.25	1.18
NOVEMBER	2013	341,274	11,376	14,041	1.23	1.02
DECEMBER	2013	370,290	11,945	13,975	1.17	1.02
TOTAL USAGE		5,000,985		AVERAGE		1.24
AVERAGE DAY FOR THE YEAR 2013			13,701	MAXIMUM RATIO		1.78
JANUARY	2014	353,519	11,404	13,376	1.17	0.94
FEBRUARY	2014	336,617	12,022	13,635	1.13	0.96
MARCH	2014	358,082	11,551	13,658	1.18	0.96
APRIL	2014	373,262	12,442	14,811	1.19	1.04
MAY	2014	442,975	14,290	17,369	1.22	1.22
JUNE	2014	444,529	14,818	17,492	1.18	1.23
JULY	2014	549,473	17,725	22,599	1.27	1.59
AUGUST	2014	588,798	18,993	24,431	1.29	1.72
SEPTEMBER	2014	496,649	16,555	19,259	1.16	1.35
OCTOBER	2014	450,057	14,518	20,884	1.44	1.47
NOVEMBER	2014	400,374	13,346	15,339	1.15	1.08
DECEMBER	2014	397,743	12,830	15,538	1.21	1.09
TOTAL USAGE		5,192,078		AVERAGE		1.22
AVERAGE DAY FOR THE YEAR 2014			14,225	MAXIMUM RATIO		1.72

		TOTAL USAGE FOR MONTH (1,000 gal)	AVERAGE DAY FOR MONTH (1,000 gal)	MAXIMUM DAY (1,000 gal)	RATIO OF MAX DAY TO AVE DAY	RATIO OF MAX DAY TO AV. DAY FOR YEAR
JANUARY	2015	420,816	13,575	16,032	1.18	1.13
FEBRUARY	2015	365,480	13,053	15,421	1.18	1.09
MARCH	2015	391,294	12,622	15,656	1.24	1.10
APRIL	2015	367,946	12,265	15,304	1.25	1.08
MAY	2015	384,923	12,417	15,494	1.25	1.09
JUNE	2015	439,467	14,649	19,971	1.36	1.41
JULY	2015	501,131	16,166	20,305	1.26	1.43
AUGUST	2015	543,694	17,539	25,757	1.47	1.82
SEPTEMBER	2015	505,552	16,852	20,250	1.20	1.43
OCTOBER	2015	481,319	15,526	17,665	1.14	1.25
NOVEMBER	2015	390,214	13,007	15,312	1.18	1.08
DECEMBER	2015	384,505	12,403	14,696	1.18	1.04
TOTAL USAGE		5,176,341		AVERAGE		1.24
AVERAGE DAY FOR THE YEAR 2015			14,182	MAXIMUM RATIO		1.82
JANUARY	2016	402,699	12,990	15,527	1.20	1.18
FEBRUARY	2016	381,319	13,149	16,470	1.25	1.25
MARCH	2016	389,649	12,569	16,032	1.28	1.22
APRIL	2016	411,716	13,724	15,899	1.16	1.21
MAY	2016	430,995	13,903	16,342	1.18	1.24
JUNE	2016	507,998	16,933	21,212	1.25	1.61
JULY	2016	530,514	17,113	20,636	1.21	1.57
AUGUST	2016	550,706	17,765	20,542	1.16	1.56
SEPTEMBER	2016	518,344	17,278	20,960	1.21	1.59
OCTOBER	2016	492,751	15,895	18,836	1.19	1.43
NOVEMBER	2016	436,766	14,559	19,642	1.35	1.49
DECEMBER	2016	416,711	13,442	16,180	1.20	1.23
TOTAL USAGE		5,470,168		AVERAGE		1.38
AVERAGE DAY FOR THE YEAR 2016			14,987	MAXIMUM RATIO		1.61

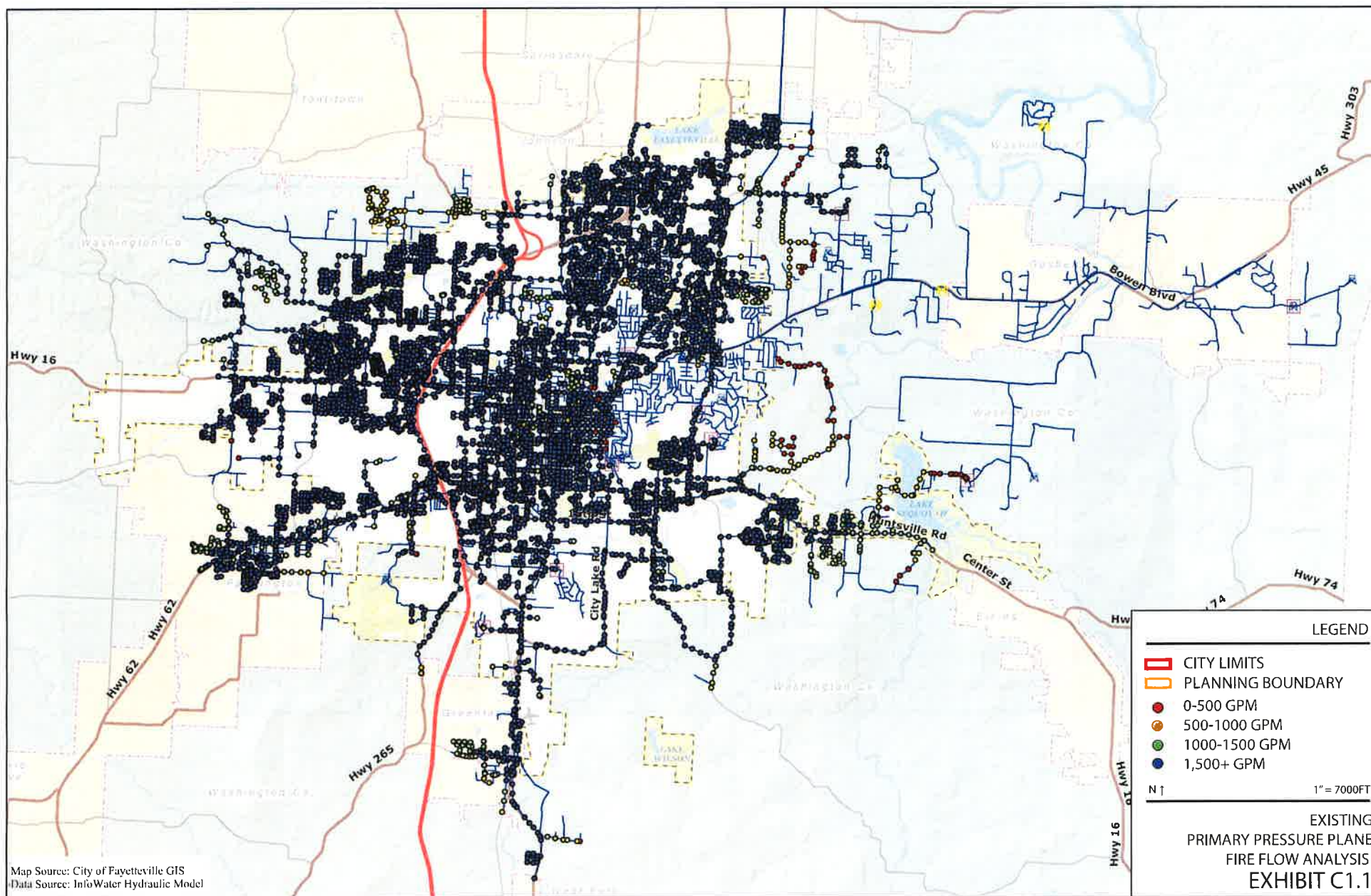


TABLE C1.1

Existing Primary Pressure Plane Fire Flow Results

Fayetteville Water Master Plan

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F117382	1,500	-0.96	F117382	18.69	3,098.42
F111751	1,500	-0.20	F111751	14.37	7,720.30
F105909	1,500	-0.17	F105909	18.89	799.35
F116411	1,500	0.75	J2258	9.50	779.95
F107071	1,500	0.80	F107071	18.58	3,888.18
F101489	1,500	63.26	F101489	20.00	66.42
J1418	1,500	68.87	F113777	16.98	71.05
F101054	1,500	68.91	F113777	17.63	71.42
F113777	1,500	72.50	F113777	20.00	76.18
F116351	1,500	75.90	F113777	5.40	72.53
F100432	1,500	78.61	J2258	9.50	81.38
J1998	1,500	81.43	J2258	9.50	84.22
F108966	1,500	103.37	F108966	20.00	106.39
F114048	1,500	111.16	J2258	9.50	114.75
F113950	1,500	121.64	F114226	14.00	123.35
J2130	1,500	159.44	J2258	9.50	166.57
F114984	1,500	200.50	F114557	14.84	206.87
J2008	1,500	202.18	J2008	20.00	225.71
F101055	1,500	205.77	F101061	1.76	193.10
F115205	1,500	242.23	J2008	3.94	228.64
F113520	1,500	256.02	F113520	20.00	270.04
F114243	1,500	295.69	J2008	-20.10	231.22
F113522	1,500	329.19	F101061	-13.57	280.90
F114459	1,500	334.11	F114459	20.00	376.97
F103858	1,500	334.87	F105427	12.35	340.64
F100904	1,500	338.24	F105427	11.51	341.96
F100837	1,500	352.08	F105427	5.38	340.91
F102172	1,500	354.83	J2008	-47.02	238.10
V107887	1,500	355.02	F113921	13.84	399.17
F116398	1,500	368.14	F114459	13.40	382.13
F113028	1,500	368.93	F113921	12.34	395.26
F115207	1,500	373.45	J2008	-57.24	237.01
J1616	1,500	382.85	F108674	12.85	400.79
F101456	1,500	388.71	F105427	-8.56	344.82
F115208	1,500	389.70	J2008	-62.69	241.72
F104061	1,500	391.05	F114459	6.38	376.15
V103375	1,500	398.44	J2008	-65.27	243.36
FH14341	1,500	406.10	F108674	9.20	400.79
F111914	1,500	406.62	F108674	9.09	400.79
F111915	1,500	408.66	F108674	9.09	402.81
F111916	1,500	408.76	F108674	8.79	401.05
F102174	1,500	409.08	J2008	-66.06	248.66
F114228	1,500	410.83	J2008	-66.65	249.05
F114227	1,500	412.11	J2008	-67.53	248.87
F104062	1,500	412.39	F114459	8.39	405.13
FH03420	1,500	413.43	J2008	-67.98	249.16
F102119	1,500	414.13	J2008	-68.33	249.19
F102919	1,500	415.63	J2008	-69.13	249.23
J1620	1,500	416.10	F108674	7.58	400.79
F106048	1,500	424.17	F105427	-22.05	349.54
F104802	1,500	440.84	J2008	-53.16	285.71
F105497	1,500	444.47	F114459	-1.90	394.74
F115209	1,500	447.72	J2008	-67.98	270.41
V107888	1,500	449.09	F113921	6.02	404.64
F112151	1,500	451.16	F116411	14.60	973.92
F104063	1,500	454.10	F114459	-2.53	400.71

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F101455	1,500	456.20	F105427	-34.53	353.81
F118150	1,500	461.20	F105427	-35.72	355.82
F114242	1,500	468.39	J2008	-71.58	297.52
F104801	1,500	472.03	J2008	-62.85	292.60
FH14563	1,500	475.63	F108674	-2.91	400.79
J1628	1,500	479.66	F108674	-3.65	400.79
F101534	1,500	485.91	F105576	6.61	461.53
F108965	1,500	486.18	F105427	-34.68	376.39
F102990	1,500	486.66	J2008	-47.75	324.64
F113954	1,500	486.95	F105427	-39.28	369.59
F114293	1,500	492.11	F114293	20.00	528.92
J1624	1,500	492.26	F108674	-6.01	400.79
F105981	1,500	493.17	F105981	20.00	765.99
F101454	1,500	493.88	F105427	-35.20	381.47
F102604	1,500	494.68	J2008	-51.05	324.55
F101179	1,500	500.57	J2008	-51.22	328.09
FH03751	1,500	503.33	F113921	1.64	409.84
F101178	1,500	503.35	J2008	-54.73	324.33
J1626	1,500	503.95	F108674	-8.24	400.79
J2348	1,500	510.35	F105576	6.64	486.16
F115769	1,500	510.49	F105576	5.04	473.96
F101183	1,500	510.74	F114459	-19.17	395.01
F101182	1,500	514.50	J2008	-20.71	402.36
F116817	1,500	516.63	F113714	16.22	547.49
F104064	1,500	517.09	F114459	-15.38	410.48
F114236	1,500	517.61	J2008	-67.69	314.25
F101180	1,500	519.21	J2008	-51.65	340.13
F104224	1,500	531.39	F105427	-44.72	393.26
F105498	1,500	533.48	F114459	-25.88	393.68
F101181	1,500	534.04	J2008	-42.74	366.49
F116953	1,500	537.97	F116953	20.00	602.05
F114460	1,500	544.78	J2008	-38.26	383.25
F113952	1,500	561.93	F105427	-49.52	407.36
F100452	1,500	579.30	F108674	-12.05	443.61
F101458	1,500	582.14	F105427	-48.06	424.24
FH03051	1,500	590.52	J2258	9.50	634.70
F101184	1,500	593.06	F114459	-42.67	396.16
FH03041	1,500	597.60	J2258	9.50	638.75
F109469	1,500	598.88	J2258	9.50	638.75
F109693	1,500	599.18	J2258	9.50	638.75
FH03043	1,500	602.00	J2258	9.50	638.72
FH11458	1,500	603.87	F105427	-46.32	442.98
J1526	1,500	605.30	F105427	-26.08	486.74
F109702	1,500	605.47	J2258	9.50	638.71
F107281	1,500	605.59	F105427	-26.17	486.74
J3028	1,500	606.05	F108674	9.52	601.59
F112977	1,500	606.77	J2258	9.50	625.23
F109471	1,500	607.84	J2258	9.50	638.32
V107387	1,500	608.02	J2258	9.50	638.54
FH02644	1,500	609.44	J2258	9.50	638.87
F113928	1,500	609.86	F113921	4.35	545.00
FH03042	1,500	611.82	J2258	9.50	638.73
F115063	1,500	612.03	F114459	-39.22	415.22
F113308	1,500	612.33	F105578	-4.92	476.65
F101185	1,500	612.93	F114459	-48.90	395.86
J1528	1,500	614.83	F105427	-29.22	486.74
F113260	1,500	615.33	J2258	9.50	643.78
F114329	1,500	616.20	F105277	1.97	577.75
F112564	1,500	617.19	F112564	20.00	755.22
FH03050	1,500	617.62	J2258	9.50	638.69
F109692	1,500	617.76	J2258	9.50	640.20
F103621	1,500	618.51	J2258	9.50	642.28
F105164	1,500	619.17	J2258	9.50	637.45

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F104137	1,500	619.23	F105427	-24.45	501.90
F102812	1,500	619.33	F105427	-50.09	447.15
F109458	1,500	622.39	J2258	9.50	650.48
F104228	1,500	623.63	F105427	-37.27	475.46
FH02643	1,500	623.87	J2258	9.50	639.00
F116622	1,500	625.91	F112564	19.44	755.37
V110776	1,500	625.94	F112564	19.44	755.39
F112566	1,500	626.02	F112564	19.44	755.48
F109699	1,500	626.85	J2258	9.50	642.76
F100448	1,500	627.38	J2258	9.50	635.44
F105167	1,500	627.55	J2258	9.50	647.01
F105161	1,500	628.59	J2258	9.50	636.66
F102695	1,500	628.78	J2258	9.50	634.39
F102813	1,500	628.91	F105427	-51.72	450.94
F109691	1,500	630.06	J2258	9.50	642.04
F112567	1,500	631.49	F112564	19.08	755.46
F119164	1,500	631.62	F112564	19.08	755.61
F109454	1,500	631.88	J2258	9.50	646.52
F101533	1,500	631.91	F105578	-7.33	476.33
FH03049	1,500	632.24	J2258	9.50	638.70
FH03044	1,500	632.67	J2258	9.50	638.71
F109688	1,500	633.01	J2258	9.50	650.67
F109703	1,500	634.27	J2258	9.50	642.03
F114019	1,500	641.76	F103431	9.42	639.08
F112569	1,500	642.25	F112564	18.53	757.98
J842	1,500	643.27	J2258	9.50	809.43
FH02131	1,500	649.39	F103431	7.84	639.43
F100255	1,500	649.84	F108674	4.27	597.81
F114021	1,500	650.18	J2258	9.50	690.50
F113029	1,500	651.00	F113921	-12.10	414.70
F105168	1,500	652.27	F103431	8.67	646.11
F107865	1,500	654.98	F103431	7.71	644.38
F113376	1,500	658.22	F112564	19.25	790.60
F105494	1,500	660.96	F105494	20.00	838.63
F109697	1,500	662.36	F103431	4.84	638.71
F119212	1,500	662.95	F119212	20.00	724.18
F101186	1,500	666.56	F114459	-55.05	415.53
F114291	1,500	668.47	F108674	-19.67	477.09
FH03048	1,500	668.51	F103431	3.47	638.68
J2300	1,500	670.24	J2300	20.00	764.70
F105170	1,500	677.00	F103431	2.61	643.17
F101272	1,500	684.20	F105238	-0.15	533.93
F101053	1,500	693.22	F113921	-15.85	417.64
FH03046	1,500	698.26	F103431	-3.25	638.68
F109709	1,500	708.92	F103431	-3.13	649.87
F100245	1,500	713.57	F108674	-4.45	589.99
V111364	1,500	717.57	V111365	10.62	719.88
FH03047	1,500	717.57	F103431	-7.72	638.68
F104140	1,500	722.73	F105238	-3.04	513.58
F109466	1,500	725.05	F103431	-9.48	638.66
F101460	1,500	725.31	F105578	-7.90	541.31
F102740	1,500	727.77	F115178	-28.49	498.99
J944	1,500	728.91	F115178	-28.61	499.51
F104068	1,500	741.40	F114459	-62.83	446.20
F109462	1,500	743.28	F103431	-13.81	638.67
F112928	1,500	744.37	F112927	2.86	653.70
F113685	1,500	752.27	F113685	20.00	879.92
F100246	1,500	754.97	F108674	-10.09	588.61
F103762	1,500	756.01	F103762	20.00	798.65
F100463	1,500	762.21	F108674	-16.07	560.79
F113684	1,500	762.51	F113684	20.00	888.89
F109710	1,500	763.71	F103431	-18.76	638.68
F114288	1,500	774.29	F108674	-15.52	572.00

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F113951	1,500	780.26	F105238	-7.17	498.75
F101187	1,500	784.59	F114459	-66.49	465.10
F105598	1,500	806.26	F114459	1.73	742.14
F114292	1,500	816.51	F108674	-26.52	551.77
F110315	1,500	822.48	F112927	-3.89	653.70
F114457	1,500	825.74	F114459	-0.77	742.98
F100464	1,500	826.23	F108674	-32.12	534.31
F101082	1,500	829.82	F105238	-11.16	486.84
F117345	1,500	840.09	F103431	-36.87	643.37
F116524	1,500	850.56	F112927	-6.44	654.01
F104069	1,500	853.51	F114459	-68.23	503.39
F112974	1,500	854.46	J2258	9.50	857.23
V108941	1,500	856.84	F112927	-7.05	653.70
F100743	1,500	863.75	F115178	-56.26	500.63
F117861	1,500	882.10	J2258	9.49	925.77
F114626	1,500	888.66	F114626	20.00	1,034.76
F112511	1,500	891.49	F112511	20.00	1,002.45
V108940	1,500	892.68	F112927	-10.44	653.70
F112453	1,500	894.90	J2300	11.69	913.68
F108050	1,500	898.81	F103431	3.46	858.63
F102785	1,500	904.19	F105282	2.39	854.32
F103450	1,500	911.21	F108674	-37.95	565.92
F110728	1,500	913.39	F113866	17.96	949.65
F106926	1,500	915.64	F105282	2.51	865.92
F115860	1,500	916.95	J2258	9.49	960.43
F113867	1,500	924.19	F113866	17.16	957.00
FH14189	1,500	926.80	FH14189	20.00	1,160.14
F115223	1,500	926.88	F114459	-15.07	742.81
F116394	1,500	927.67	F116394	20.00	1,165.61
F101189	1,500	934.58	F114459	-72.11	543.23
F103304	1,500	937.80	F103431	-3.32	857.22
F100462	1,500	939.24	F108674	-36.89	587.17
F100449	1,500	946.36	F103431	-10.71	827.53
F101083	1,500	946.56	F105238	-20.94	473.15
F104580	1,500	948.73	F105578	10.19	952.80
F109632	1,500	949.63	F109632	20.00	984.99
F104314	1,500	952.00	F114459	-69.23	561.05
F115872	1,500	953.04	F117326	17.67	1,117.14
F106142	1,500	954.71	F114453	16.12	1,004.21
F105719	1,500	962.11	F105719	20.00	1,071.02
FH10959	1,500	962.58	F105238	-22.47	470.18
F108902	1,500	972.28	F108902	20.00	1,008.53
F113866	1,500	977.12	F113866	20.00	1,020.04
F113542	1,500	977.17	F105282	6.37	950.75
V100679	1,500	977.79	J2258	9.49	1,021.48
V101475	1,500	978.18	F103762	20.00	1,033.64
V101123	1,500	983.16	F105238	-23.99	471.97
F114297	1,500	986.92	F108674	-39.31	608.42
F113412	1,500	991.23	F115178	-63.72	551.97
F100450	1,500	993.82	F103431	-13.07	857.22
V100678	1,500	995.66	J2258	9.49	1,047.18
F100307	1,500	997.87	F100307	20.00	1,050.97
FH10870	1,500	999.10	J2258	9.50	1,035.02
F114458	1,500	1,001.44	F114459	-26.44	742.21
F102649	1,500	1,012.50	J2258	9.49	1,066.08
F112446	1,500	1,014.39	F105578	7.07	953.99
F112451	1,500	1,014.61	F105578	7.05	953.72
FH11294	1,500	1,015.64	F105578	6.92	952.12
FH11291	1,500	1,016.78	F105578	6.86	952.12
F112450	1,500	1,016.88	F105578	6.86	952.12
J360	1,500	1,018.37	F103431	3.83	975.35
F112443	1,500	1,020.91	F105578	6.66	952.12
F112448	1,500	1,022.99	F105578	6.57	952.54

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F106445	1,500	1,025.62	J2258	9.49	1,075.61
F114834	1,500	1,031.02	F112927	-4.78	809.36
FH02342	1,500	1,031.34	F105578	6.14	952.12
F116576	1,500	1,031.57	F105578	6.17	953.03
F100363	1,500	1,034.29	F103431	-13.54	889.75
V100823	1,500	1,041.26	F108674	-39.55	639.96
F104703	1,500	1,041.40	F105578	5.68	953.03
F112986	1,500	1,042.54	F114012	-2.54	992.84
F103945	1,500	1,046.41	F101061	-8.09	923.00
F112447	1,500	1,047.01	F105578	5.35	952.12
V102900	1,500	1,054.20	F113700	18.50	1,115.44
F109683	1,500	1,055.12	J2258	9.50	1,091.32
F118128	1,500	1,055.50	F101003	-7.19	957.28
F106331	1,500	1,056.17	F106331	20.00	1,185.29
FH02921	1,500	1,057.79	F105238	-27.82	485.95
F113359	1,500	1,058.74	F113361	17.85	1,108.52
FH10869	1,500	1,059.59	J2258	9.50	1,096.09
V107528	1,500	1,061.64	F103431	-2.96	972.72
F116534	1,500	1,064.62	F103431	-2.35	979.84
F104579	1,500	1,067.40	F105578	4.35	952.84
F107818	1,500	1,068.12	F103431	-11.95	926.89
F109685	1,500	1,074.27	J2258	9.50	1,107.33
F100465	1,500	1,075.52	F108674	-38.23	665.97
F115184	1,500	1,075.60	F115184	20.00	1,131.67
F108728	1,500	1,077.25	F105238	-28.90	490.76
V107619	1,500	1,077.38	F101003	-8.74	969.28
F106979	1,500	1,079.52	J2258	9.49	1,130.87
F113929	1,500	1,080.56	F113921	-55.53	429.64
F117418	1,500	1,085.47	J2258	9.49	1,115.67
FH02344	1,500	1,087.95	F105578	3.26	952.12
FH03313	1,500	1,088.78	F103431	-7.06	972.74
F102599	1,500	1,088.89	F102599	20.00	1,206.38
F116496	1,500	1,091.04	F103431	-6.32	979.89
F101581	1,500	1,091.39	F114459	-66.50	653.19
V102777	1,500	1,095.36	F115279	-28.88	773.73
F118127	1,500	1,096.82	F103431	-8.19	973.79
F118218	1,500	1,096.87	J2258	9.49	1,153.26
FH02922	1,500	1,098.94	F105238	-30.87	485.95
FH10871	1,500	1,099.39	J2258	9.49	1,143.01
F113949	1,500	1,100.28	F105238	-34.94	463.43
F110313	1,500	1,105.58	J2258	9.50	1,158.19
J1824	1,500	1,105.92	F105578	2.42	953.88
F116498	1,500	1,108.53	F103431	-9.37	977.66
V109028	1,500	1,109.85	J2258	9.50	1,162.89
F110314	1,500	1,110.14	J2258	9.50	1,163.19
F102716	1,500	1,110.31	J2258	9.49	1,144.90
F100262	1,500	1,110.66	J2258	9.49	1,169.72
V107627	1,500	1,110.94	F103431	-9.71	977.74
F118032	1,500	1,112.27	J2258	9.50	1,165.52
F118075	1,500	1,114.42	F103431	-10.63	975.34
V110931	1,500	1,115.17	J2258	9.49	1,148.47
F116497	1,500	1,117.26	F103431	-11.23	974.32
F117178	1,500	1,117.34	F105578	1.88	955.11
F118197	1,500	1,124.87	J2258	9.49	1,174.40
J1822	1,500	1,126.21	F105578	1.31	953.08
F108727	1,500	1,128.38	F105238	-32.66	491.34
F118077	1,500	1,129.28	F103431	-12.64	977.33
F117424	1,500	1,129.66	J2258	9.49	1,181.69
F118076	1,500	1,130.39	F103431	-13.22	974.72
FH02398	1,500	1,133.39	J2258	9.49	1,181.79
F105718	1,500	1,134.23	F105718	20.00	1,226.82
F118059	1,500	1,139.53	F103431	-14.80	973.65
F114022	1,500	1,139.77	F103431	-16.90	962.03

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F107048	1,500	1,140.87	F107048	20.00	1,219.53
F116499	1,500	1,141.36	F103431	-14.90	974.72
J356	1,500	1,141.74	F103431	-15.06	973.95
J362	1,500	1,142.38	F103431	-15.09	974.72
F113312	1,500	1,144.96	F105578	-36.85	634.11
F117200	1,500	1,145.24	J2258	9.49	1,202.51
F102778	1,500	1,147.92	F105238	-40.82	450.27
F114296	1,500	1,149.77	F108674	-40.96	699.40
F113377	1,500	1,150.73	F112564	-8.07	902.58
FH10278	1,500	1,150.87	F115092	5.89	1,103.80
FH02397	1,500	1,151.07	J2258	9.49	1,201.94
F102648	1,500	1,151.17	F115092	5.51	1,100.01
FH02345	1,500	1,151.26	F105578	-0.07	952.12
F100257	1,500	1,151.92	F115092	5.51	1,100.73
F113773	1,500	1,154.88	F100307	14.26	1,179.94
F116299	1,500	1,155.13	F103431	-17.03	974.62
F113697	1,500	1,155.52	F113697	20.00	1,299.20
J1530	1,500	1,160.33	F113921	-64.87	434.18
F105489	1,500	1,160.51	F105489	20.00	1,215.19
F111489	1,500	1,160.78	F105238	-35.43	485.95
F103190	1,500	1,160.89	F115092	6.11	1,115.82
F109602	1,500	1,162.48	F109602	20.00	1,277.75
F117088	1,500	1,164.57	J2258	9.49	1,215.26
FH11113	1,500	1,165.63	F113493	-34.77	629.45
F117862	1,500	1,166.63	J2258	9.49	1,196.12
F115917	1,500	1,166.79	J2258	9.49	1,223.19
FH02384	1,500	1,167.93	F105578	-0.97	952.12
V102893	1,500	1,168.40	V102893	20.00	1,243.72
F102344	1,500	1,174.31	F102344	20.00	1,324.68
F113938	1,500	1,180.59	F105238	-34.99	499.69
F118055	1,500	1,184.24	J2258	9.49	1,244.74
V102947	1,500	1,187.52	V102947	20.00	1,260.03
F113435	1,500	1,191.41	J2258	9.49	1,239.61
F101572	1,500	1,192.08	F114459	-58.19	742.14
F113411	1,500	1,193.34	F115178	-69.94	642.09
F107860	1,500	1,193.46	J2258	9.49	1,233.13
F116457	1,500	1,194.26	J2258	9.49	1,234.80
F109605	1,500	1,194.82	F109605	20.00	1,300.18
F114023	1,500	1,195.21	F103431	-14.58	1,023.09
J2652	1,500	1,195.22	J2258	9.49	1,238.57
F107125	1,500	1,195.44	F107125	20.00	1,298.53
F105475	1,500	1,199.27	F105475	20.00	1,252.76
F118285	1,500	1,200.25	J2258	9.49	1,250.93
V107490	1,500	1,202.09	F109605	19.15	1,298.21
FH03753	1,500	1,202.35	FH03753	20.00	1,247.97
V101487	1,500	1,203.67	J2258	9.49	1,254.89
FH10958	1,500	1,204.44	F105238	-44.81	455.83
FH02396	1,500	1,207.52	J2258	9.49	1,250.05
F116586	1,500	1,208.46	J2258	9.49	1,250.05
F109604	1,500	1,209.56	F109602	17.84	1,300.93
FH04088	1,500	1,211.25	F113921	-72.17	434.18
F115959	1,500	1,212.12	F115959	20.00	1,301.64
F101052	1,500	1,212.13	F113921	-72.29	434.27
F102779	1,500	1,212.68	F105238	-45.33	458.88
F113329	1,500	1,213.10	F105578	-3.44	952.26
F112243	1,500	1,214.44	J2258	9.49	1,258.57
F108747	1,500	1,214.66	F105238	-45.08	457.40
F107828	1,500	1,215.22	F117327	18.16	1,455.85
F106141	1,500	1,215.43	F114453	4.08	1,162.00
F104315	1,500	1,218.15	F114459	-52.67	779.96
FH10996	1,500	1,219.39	F105238	-48.71	447.71
V104455	1,500	1,219.87	J2258	9.49	1,265.57
FH10324	1,500	1,222.32	F105278	18.74	1,303.09

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
FH12246	1,500	1,223.10	J2258	9.49	1,257.50
F116556	1,500	1,223.99	J2258	9.49	1,266.03
F115889	1,500	1,224.07	F105578	-3.71	958.32
F108381	1,500	1,224.09	J2258	9.49	1,256.18
V106064	1,500	1,225.22	F105282	-5.28	1,100.93
F113320	1,500	1,225.81	F105578	-4.13	952.49
J2320	1,500	1,226.27	J2320	20.00	1,335.49
F107017	1,500	1,229.33	J2258	9.49	1,281.22
J2860	1,500	1,229.54	F105238	-40.45	485.95
F108379	1,500	1,230.59	J2258	9.49	1,251.64
F115180	1,500	1,232.17	F105282	-5.28	1,107.18
FH10579	1,500	1,232.45	J2258	9.49	1,284.58
F107952	1,500	1,233.27	F105282	-5.28	1,108.16
J2072	1,500	1,233.46	J2072	20.00	1,389.93
F115910	1,500	1,234.10	J2258	9.49	1,292.22
J2318	1,500	1,235.12	J2318	20.00	1,334.10
FH10873	1,500	1,235.39	J2258	9.49	1,290.72
FH02925	1,500	1,236.37	F105238	-47.25	457.12
F104698	1,500	1,237.94	F105578	-4.83	952.12
F101081	1,500	1,238.33	F105238	-49.92	451.45
F113331	1,500	1,241.42	F105578	-5.00	952.70
F108263	1,500	1,242.63	F113981	16.92	1,432.44
F108260	1,500	1,243.66	F117327	17.25	1,455.85
F106441	1,500	1,246.02	J2258	9.49	1,296.79
V110956	1,500	1,248.06	J2258	9.49	1,302.96
F113930	1,500	1,248.19	F113921	-74.77	440.91
F108593	1,500	1,249.17	F105238	-61.15	424.46
F101405	1,500	1,249.69	F101405	20.00	1,445.94
F107222	1,500	1,250.28	J2258	9.49	1,302.44
F116044	1,500	1,250.38	J2258	9.49	1,312.60
F112854	1,500	1,251.41	J2258	9.49	1,303.60
F105991	1,500	1,253.37	F105578	-5.68	952.41
F113494	1,500	1,260.18	F113493	-40.27	651.15
F101714	1,500	1,263.41	J2258	9.49	1,319.24
F109793	1,500	1,263.56	F105578	-6.24	952.85
V100092	1,500	1,264.74	V100092	20.00	1,343.67
V101119	1,500	1,266.81	F105238	-52.32	453.03
F113931	1,500	1,267.40	F105238	-54.20	446.64
F101100	1,500	1,267.76	F101100	20.00	1,325.01
F115859	1,500	1,269.05	J2258	9.49	1,306.16
V100193	1,500	1,269.09	V100193	20.00	1,329.42
V102172	1,500	1,269.54	V102172	20.00	1,416.73
F112223	1,500	1,273.17	J2258	9.49	1,329.69
F108729	1,500	1,274.29	F105238	-42.35	495.01
FH10970	1,500	1,275.65	F105238	-59.32	435.01
F107282	1,500	1,277.58	F105238	-52.01	458.35
F113686	1,500	1,278.35	F113686	20.00	1,495.79
F111910	1,500	1,281.64	F105238	-51.72	457.93
F103985	1,500	1,282.18	F105238	-59.88	436.59
F113982	1,500	1,283.65	F113981	16.16	1,445.49
F118090	1,500	1,283.75	J2258	9.49	1,347.60
J94	1,500	1,288.25	J2258	9.49	---
F101917	1,500	1,289.95	F117327	15.75	1,455.85
F112879	1,500	1,291.46	J2258	9.49	1,331.88
FH10972	1,500	1,292.18	F105238	-62.86	430.91
F103888	1,500	1,293.32	J2258	9.49	1,358.76
FH10874	1,500	1,294.33	J2258	9.49	1,331.21
F106438	1,500	1,294.72	J2258	9.49	1,341.43
F116552	1,500	1,295.33	J2258	9.49	1,328.10
F103983	1,500	1,301.56	F105238	-61.89	438.62
F109601	1,500	1,302.75	F109602	14.54	1,357.40
F106693	1,500	1,303.93	F117327	15.29	1,455.85
F114621	1,500	1,304.58	F114621	20.00	1,479.96

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
J58	1,500	1,306.05	J2258	9.49	1,334.44
F114294	1,500	1,306.05	F108674	-37.31	814.38
F115119	1,500	1,306.62	F108674	-48.12	760.45
F106436	1,500	1,306.70	J2258	9.49	1,363.05
F100466	1,500	1,307.43	F108674	-48.23	760.45
F101084	1,500	1,309.46	F105238	-55.98	456.33
F115271	1,500	1,312.54	F115271	20.00	1,365.91
J1570	1,500	1,314.58	FH03753	18.79	1,358.16
F106134	1,500	1,321.79	J2320	19.16	1,428.76
V103618	1,500	1,322.06	V103618	20.00	1,441.07
F112858	1,500	1,322.51	J2258	9.49	1,369.74
F108261	1,500	1,323.85	F117327	14.62	1,455.85
F115861	1,500	1,327.03	J2258	9.49	1,390.73
F105706	1,500	1,330.78	F105578	6.87	1,248.15
FH10872	1,500	1,331.42	J2258	9.49	1,369.74
F101092	1,500	1,332.08	F105238	-67.20	434.43
F106694	1,500	1,333.60	F117327	14.29	1,455.85
F112856	1,500	1,333.94	J2258	9.49	1,370.13
F112857	1,500	1,335.23	J2258	9.49	1,369.74
F106222	1,500	1,336.87	F105238	-46.31	502.71
F113497	1,500	1,339.82	F113497	20.00	1,407.70
FH10443	1,500	1,340.01	J2258	9.49	1,397.90
F100414	1,500	1,340.45	J2258	9.49	1,398.41
F101918	1,500	1,341.02	F117327	14.19	1,460.67
FH02926	1,500	1,342.68	F105238	-57.95	458.10
F102687	1,500	1,342.70	J2318	17.88	1,425.63
F100286	1,500	1,344.05	F107125	17.61	1,430.10
V110933	1,500	1,345.65	J2258	9.49	1,402.09
F112390	1,500	1,345.74	F105238	-59.31	457.51
F108750	1,500	1,349.89	F105238	-58.66	458.46
F113683	1,500	1,349.98	F113685	19.22	1,558.76
F114295	1,500	1,352.87	F108674	-36.17	850.16
F103362	1,500	1,352.98	J2258	9.49	1,411.80
F114625	1,500	1,355.15	F114625	20.00	1,583.58
FH14568	1,500	1,356.63	J2258	9.49	1,353.20
F107459	1,500	1,357.65	F107459	20.00	1,420.28
F112860	1,500	1,358.81	J2258	9.49	1,368.67
V110644	1,500	1,359.86	V110644	20.00	1,423.05
F103356	1,500	1,361.81	J2258	9.49	1,410.81
V108021	1,500	1,363.89	J2258	9.49	1,440.57
F103357	1,500	1,364.84	J2258	9.49	1,412.72
F114032	1,500	1,366.64	J2258	9.49	1,412.48
F100763	1,500	1,367.22	F113471	-6.63	1,255.95
F101094	1,500	1,368.66	F105238	-69.94	437.54
F118221	1,500	1,370.14	F105578	-12.40	954.09
F108375	1,500	1,370.20	F105578	5.33	1,248.15
V101257	1,500	1,370.20	F115178	-0.40	1,194.46
FH10444	1,500	1,372.68	J2258	9.49	1,410.81
J3064	1,500	1,375.70	F105238	-52.83	485.95
V100978	1,500	1,375.78	J2258	9.49	1,411.60
F102042	1,500	1,379.16	F105578	-12.97	953.66
F101399	1,500	1,379.67	F101399	20.00	1,571.10
F112220	1,500	1,380.67	V110644	19.68	1,442.58
F113869	1,500	1,382.57	F115184	11.38	1,391.73
F105273	1,500	1,382.99	J2258	9.49	1,445.71
F112442	1,500	1,383.97	F105578	-13.35	952.24
F100415	1,500	1,384.21	J2258	9.49	1,412.31
FH03916	1,500	1,385.45	FH03916	20.00	1,515.31
F105673	1,500	1,385.66	F105578	-13.45	952.12
F112219	1,500	1,386.82	V110644	19.58	1,448.37
F102484	1,500	1,387.97	F102484	20.00	1,455.80
F113894	1,500	1,392.10	F113894	20.00	1,448.83
F108013	1,500	1,392.44	J2258	9.49	1,435.37

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F106144	1,500	1,392.51	F106144	20.00	1,471.51
F103361	1,500	1,392.98	J2258	9.49	1,411.70
F112192	1,500	1,393.82	F103431	5.81	1,354.39
F117207	1,500	1,394.02	J2258	9.49	1,463.69
FH02923	1,500	1,394.24	F105238	-54.64	485.95
FH10442	1,500	1,395.96	J2258	9.49	1,410.82
F101093	1,500	1,397.06	F105238	-71.75	440.63
F116554	1,500	1,400.03	J2258	9.49	1,440.14
F103351	1,500	1,401.81	F115178	6.97	1,341.35
V106502	1,500	1,402.02	J2258	9.49	1,464.55
V104056	1,500	1,402.79	J2258	9.49	1,411.52
F100416	1,500	1,403.91	J2258	9.49	1,411.20
F101400	1,500	1,406.69	F101400	20.00	1,603.50
F107476	1,500	1,407.00	J2258	9.49	1,479.56
V105664	1,500	1,407.63	J2258	9.49	1,479.93
F100761	1,500	1,407.81	J2258	9.49	1,437.00
F101397	1,500	1,411.09	F114625	19.71	1,640.31
F100083	1,500	1,411.53	J2258	9.49	1,449.00
V108260	1,500	1,412.94	F105578	-15.05	953.24
F112822	1,500	1,412.98	F112822	20.00	1,605.88
J1554	1,500	1,414.91	F105238	-63.56	463.30
F108594	1,500	1,415.20	F105578	-15.25	952.32
F105469	1,500	1,415.96	F105238	-63.79	463.37
F101818	1,500	1,417.31	J2258	9.49	---
F101091	1,500	1,417.77	F105238	-65.74	459.52
F102683	1,500	1,419.49	J2258	9.49	1,410.81
V107750	1,500	1,419.76	J2258	9.49	1,481.81
F113332	1,500	1,420.05	F105578	-15.55	952.24
FH10966	1,500	1,420.08	F105238	-66.03	458.85
F108752	1,500	1,420.39	F105238	-65.99	459.53
V100388	1,500	1,420.85	J2258	9.49	1,485.38
F110867	1,500	1,420.93	V110644	19.02	1,480.23
F106447	1,500	1,421.13	J2258	9.49	1,431.79
F109598	1,500	1,421.96	F109602	9.88	1,420.47
J1548	1,500	1,423.47	F105238	-64.44	463.93
F107884	1,500	1,424.95	J2258	9.49	1,487.53
FH10973	1,500	1,426.96	F105238	-71.19	449.50
F118237	1,500	1,427.58	J2258	9.49	---
F105470	1,500	1,428.13	F105238	-65.06	463.71
F108264	1,500	1,429.38	J2258	9.49	---
V100510	1,500	1,430.72	J2258	9.49	---
J354	1,500	1,432.38	J2258	9.49	1,500.17
F106132	1,500	1,432.91	F107125	12.34	1,459.41
V107746	1,500	1,433.79	J2258	9.49	1,482.96
V107748	1,500	1,434.37	J2258	9.49	1,483.76
F116584	1,500	1,434.64	J2258	9.49	---
F105564	1,500	1,438.17	F105564	20.00	1,561.63
V105137	1,500	1,439.04	J2258	9.49	---
V108176	1,500	1,439.11	F105238	-62.68	474.38
F106980	1,500	1,439.33	J2258	9.49	---
F101087	1,500	1,440.69	F105238	-66.49	463.11
F109807	1,500	1,441.34	F109807	20.00	1,509.38
F105992	1,500	1,441.34	F105578	-16.81	953.13
FH10452	1,500	1,442.36	F115178	6.10	1,363.56
FH10962	1,500	1,445.33	F105238	-67.02	462.85
F113543	1,500	1,445.45	F105282	-11.84	1,247.82
F109806	1,500	1,446.29	F109806	20.00	1,515.14
FH03583	1,500	1,446.97	F105238	-67.03	463.30
F116919	1,500	1,447.18	F116919	20.00	1,520.51
F113427	1,500	1,447.35	F115178	7.93	1,403.91
F101086	1,500	1,448.16	F105238	-67.08	465.10
F116328	1,500	1,448.95	F116328	20.00	1,516.03
F109808	1,500	1,450.14	F109807	19.78	1,517.03

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F113410	1,500	1,450.62	F115178	-73.35	764.72
J346	1,500	1,451.38	J2258	9.49	---
F103397	1,500	1,451.64	J2320	12.32	1,479.25
V101280	1,500	1,451.69	J2258	9.49	1,454.28
F102043	1,500	1,452.35	F105578	-17.48	953.36
F102745	1,500	1,452.42	F102745	20.00	1,535.18
F110161	1,500	1,452.93	F105238	-64.13	474.38
F102901	1,500	1,454.15	F102901	20.00	1,782.83
F100758	1,500	1,454.91	F102745	20.00	1,537.88
J348	1,500	1,454.98	J2258	9.49	---
FH03488	1,500	1,455.66	F105238	-64.42	474.37
F108254	1,500	1,457.77	F117327	9.42	1,442.13
F100405	1,500	1,459.41	F115178	7.35	1,403.91
FH03157	1,500	1,459.48	FH03157	20.00	1,531.08
F118006	1,500	1,460.50	F118006	20.00	1,534.45
F102040	1,500	1,461.03	F105578	-18.09	952.34
V110553	1,500	1,462.43	V110553	20.00	1,531.14
F114988	1,500	1,462.65	F114988	20.00	1,558.51
F113979	1,500	1,462.77	F117327	12.15	1,525.89
V107742	1,500	1,463.29	J2258	9.49	---
F103365	1,500	1,464.95	F115178	7.08	1,403.91
J1422	1,500	1,465.57	J1422	20.00	1,569.72
F102478	1,500	1,465.69	F115178	7.05	1,403.91
F118169	1,500	1,466.19	J2258	9.49	---
F118915	1,500	1,467.58	F115178	6.96	1,403.91
F118105	1,500	1,468.62	J2258	9.49	---
F102768	1,500	1,469.50	J2258	9.49	1,498.45
FH03153	1,500	1,469.63	FH03153	20.00	1,540.58
F113188	1,500	1,470.18	J2258	9.49	---
F110528	1,500	1,470.69	FH03916	15.20	1,537.92
F103366	1,500	1,470.97	F115178	6.79	1,403.91
F113935	1,500	1,471.13	F105238	-73.32	460.37
J460	1,500	1,471.42	FH03916	15.46	1,542.29
F104994	1,500	1,472.50	F104994	20.00	1,686.92
F106913	1,500	1,473.63	F113497	17.76	1,530.93
F109805	1,500	1,473.89	F109806	19.23	1,538.26
F103193	1,500	1,475.45	J2258	9.49	---
F115320	1,500	1,475.77	J2258	9.49	---
F100430	1,500	1,476.74	J2258	9.49	---
F105221	1,500	1,477.18	F105221	20.00	1,572.00
F106698	1,500	1,477.51	F117327	11.65	1,525.89
F110163	1,500	1,478.40	F105238	-66.83	474.46
F105723	1,500	1,479.82	V103604	17.93	1,727.26
V109271	1,500	1,479.86	FH03916	15.61	1,553.24
FH10449	1,500	1,480.34	F115178	2.81	1,339.81
F108257	1,500	1,480.92	F117327	8.44	1,438.95
V108020	1,500	1,481.55	F116919	18.38	1,543.62
FH10969	1,500	1,481.95	F105238	-74.43	457.22
F113330	1,500	1,482.23	F105578	-19.41	952.71
F107676	1,500	1,482.90	F107676	20.00	1,643.70
FH02393	1,500	1,483.35	F115178	6.54	1,410.73
FH14243	1,500	1,483.76	F115178	6.17	1,403.91
F108511	1,500	1,484.20	F117327	10.30	1,492.71
F101916	1,500	1,484.78	F117327	11.05	1,515.08
J1074	1,500	1,484.80	J1074	20.00	1,556.12
F115886	1,500	1,488.25	F105238	-67.66	476.43
FH03581	1,500	1,488.33	F105238	-71.57	463.30
F112984	1,500	1,488.61	J2258	9.49	---
F107225	1,500	1,488.86	F115178	6.48	1,414.96
F112252	1,500	1,489.35	J2258	9.49	---
F102650	1,500	1,489.92	J2258	9.49	---
F100261	1,500	1,490.56	J2258	9.49	---
F100283	1,500	1,490.82	F114453	3.59	1,419.88

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F118918	1,500	1,491.60	F115178	5.87	1,405.69
F117882	1,500	1,493.92	F117882	20.00	1,704.88
FH10604	1,500	1,494.28	F115178	-8.41	1,193.61
F115091	1,500	1,495.30	F117327	11.05	1,525.89
J1550	1,500	1,495.65	F105238	-72.38	463.30
FH10963	1,500	1,495.74	F105238	-72.83	462.52
FH03585	1,500	1,496.15	F105238	-72.44	463.28
F106143	1,500	1,496.16	F106143	20.00	1,592.26
F117416	1,500	1,497.92	F117416	20.00	1,675.78
F101089	1,500	1,498.04	F105238	-72.69	466.24
V106501	1,500	1,499.46	J2258	9.49	---
J1546	1,500	1,499.55	F105238	-72.81	463.31

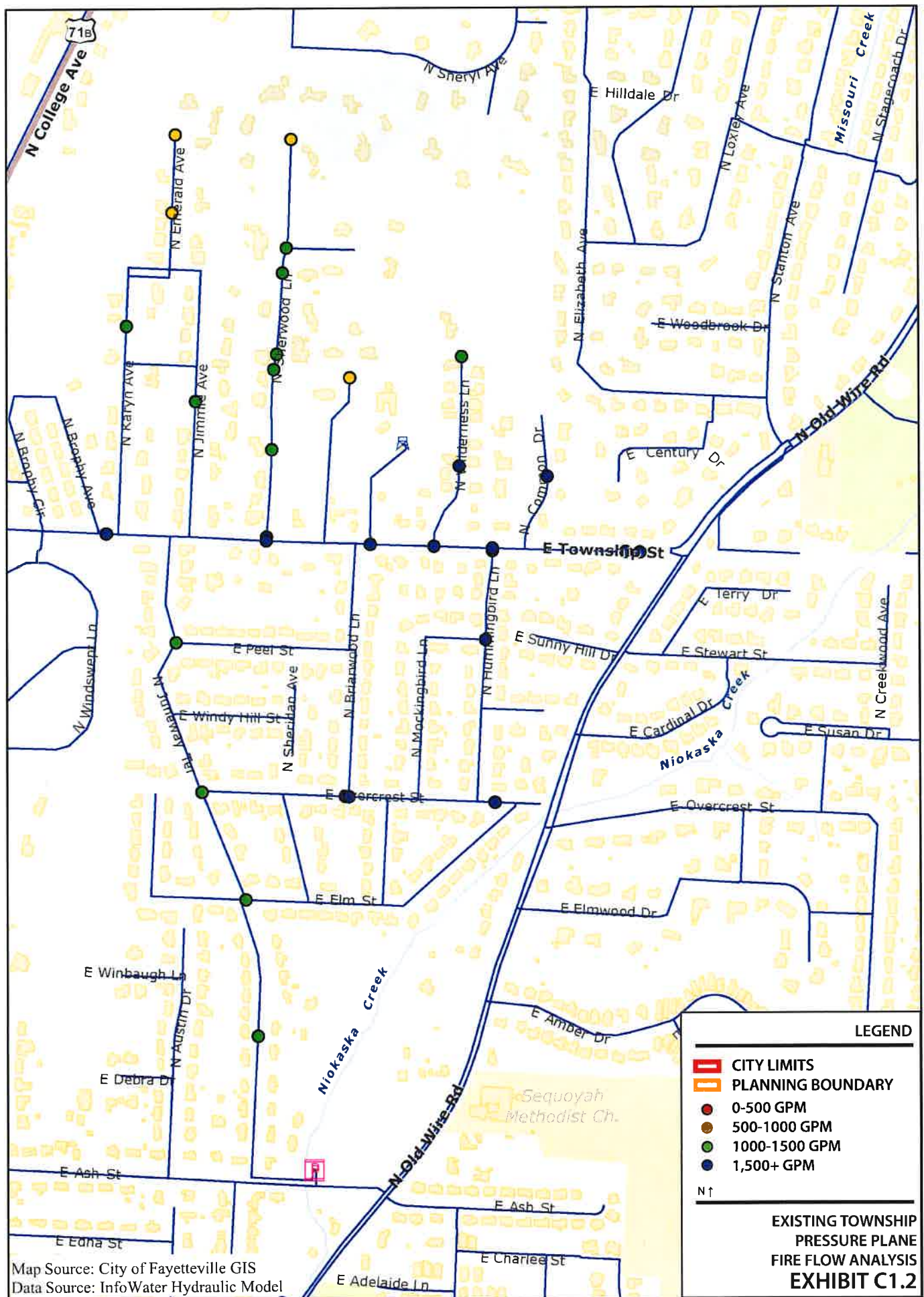


TABLE C1.2**Existing Township Pressure Plane Fire Flow Results****Fayetteville Water Master Plan**

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F106407	1,500	681.04	F106407	20.00	843.14
F106404	1,500	728.32	F106404	20.00	796.09
F107715	1,500	818.08	F106404	16.62	866.29
F112924	1,500	931.53	F112924	20.00	1,115.37
J3280	1,500	1,033.93	J3280	20.00	1,248.57
F100093	1,500	1,036.37	F112924	19.90	1,239.02
F108209	1,500	1,039.23	F114817	15.67	1,102.77
F115015	1,500	1,135.53	F115015	20.00	1,374.51
FH10097	1,500	1,184.13	F106404	-3.23	1,071.74
FH02198	1,500	1,249.21	F115015	16.31	1,401.36
V100262	1,500	1,268.82	F103077	16.21	1,340.59
V106209	1,500	1,272.03	F114817	-4.27	1,118.59
F102290	1,500	1,329.97	F104945	19.18	1,526.66
F108212	1,500	1,400.95	F114817	17.31	1,513.88
V108165	1,500	1,427.27	V108165	20.00	1,641.14
F106406	1,500	1,436.31	F115015	15.60	1,586.47
F106402	1,500	1,562.81	F106402	20.00	1,699.55
FH11961	1,500	1,740.75	F114817	9.33	1,725.51
F102287	1,500	1,762.71	F114817	8.52	1,733.20
FH11960	1,500	1,887.79	F114817	13.29	1,953.14
F110614	1,500	1,892.44	F115015	10.36	1,903.30
J790	1,500	1,905.28	V108165	13.07	1,978.82
F112327	1,500	1,976.73	F115015	10.13	1,980.54
F102310	1,500	2,081.79	F104944	18.41	2,220.02
FH03942	1,500	2,206.15	FH03942	20.00	2,372.42
J2114	1,500	2,224.72	FH03942	18.95	2,373.03
F112337	1,500	2,331.06	F106407	11.20	2,383.33
F112339	1,500	2,339.14	F106407	11.02	2,383.12
F112344	1,500	2,430.87	F115015	-3.14	2,028.87
F112335	1,500	2,453.10	F106407	8.68	2,392.07
F112331	1,500	2,768.94	F106407	1.40	2,400.23

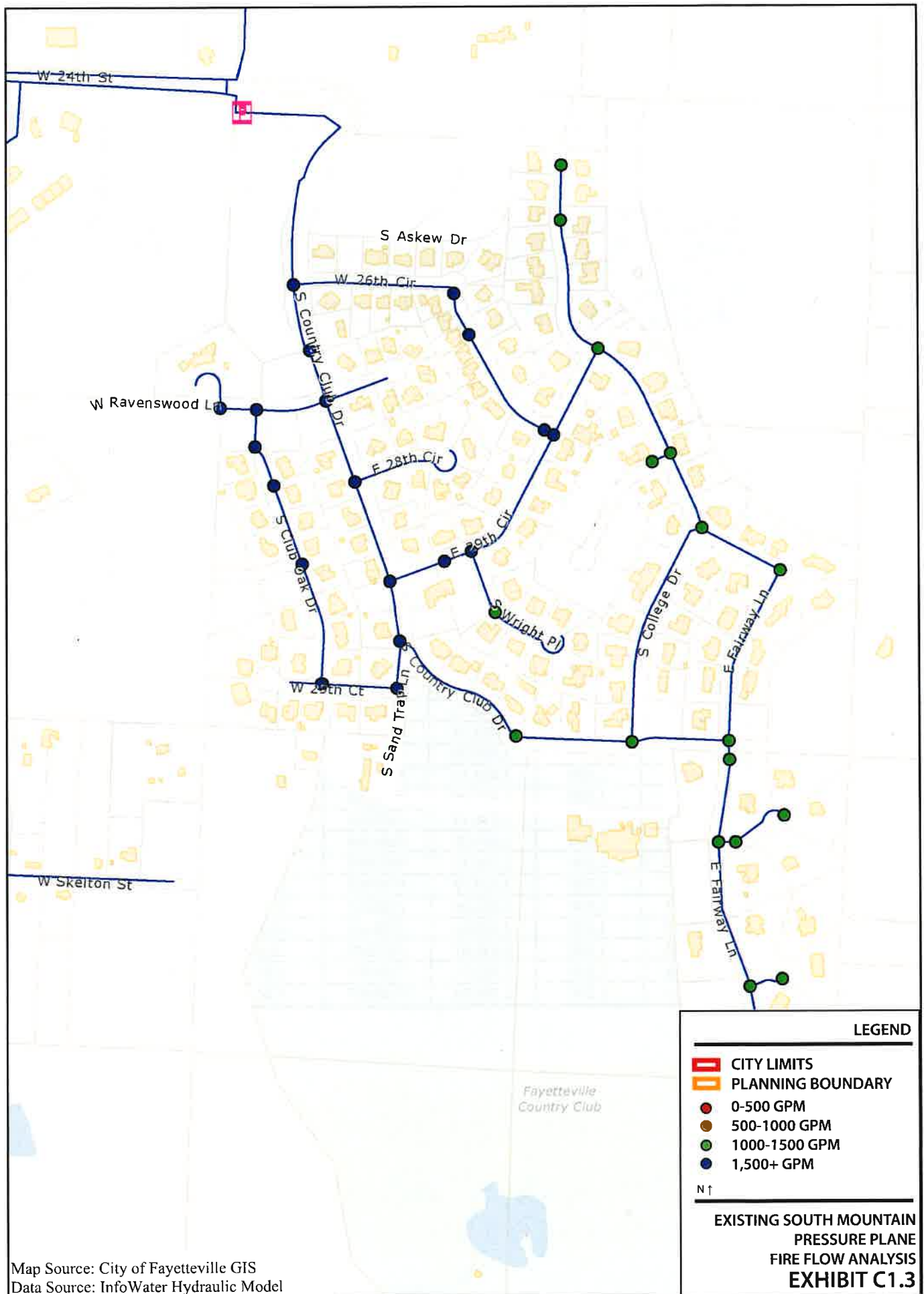


TABLE C1.3**Existing South Mountain Pressure Plane Fire Flow Results****Fayetteville Water Master Plan**

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
V106075	1,500	1,201.74	V106075	20.00	1,248.52
F100545	1,500	1,236.74	F100545	20.00	1,298.09
F100542	1,500	1,239.28	F100542	20.00	1,298.06
FH10465	1,500	1,255.42	FH10465	20.00	1,305.40
F100544	1,500	1,258.21	F100544	20.00	1,317.04
FH10468	1,500	1,263.11	F100544	18.59	1,313.57
F100543	1,500	1,277.89	F106202	19.21	1,335.84
F106024	1,500	1,282.68	F100544	15.39	1,314.26
F108614	1,500	1,287.97	F100544	14.37	1,313.57
F108596	1,500	1,289.77	F100544	14.19	1,314.26
F108597	1,500	1,292.93	F100544	13.61	1,314.02
F108615	1,500	1,298.94	F100544	12.51	1,313.57
F105313	1,500	1,307.78	F105313	20.00	1,365.53
F100520	1,500	1,319.05	F100544	9.70	1,317.34
F113395	1,500	1,332.58	F100545	15.17	1,366.55
F100541	1,500	1,341.85	F106202	14.65	1,372.19
F107964	1,500	1,348.64	F105311	14.43	1,375.89
F102485	1,500	1,465.58	F106202	5.69	1,435.91
F107965	1,500	1,501.04	F105311	9.96	1,500.75
FH10460	1,500	1,506.70	F106202	8.96	1,499.01
F116098	1,500	1,507.13	F106202	15.08	1,546.56
FH10409	1,500	1,508.01	F100545	12.33	1,526.06
F107971	1,500	1,508.76	F100545	11.11	1,517.26
F107968	1,500	1,509.50	F100545	12.41	1,528.16
F100546	1,500	1,511.78	F106202	8.22	1,498.67
F100504	1,500	1,519.14	F100545	14.27	1,553.04
F113397	1,500	1,523.41	F100545	9.12	1,516.71
FH10410	1,500	1,529.84	F106202	13.29	1,555.76
F100502	1,500	1,531.85	F100545	11.53	1,543.85
F106025	1,500	1,551.33	F100545	9.57	1,548.00
F100507	1,500	1,577.20	F100545	0.64	1,507.03
F103503	1,500	1,579.21	F100545	6.14	1,548.94
F100506	1,500	1,612.08	F100545	-2.30	1,518.98
F100503	1,500	1,618.19	F100545	1.45	1,551.19
F100505	1,500	1,655.54	F100545	-4.78	1,541.56
F102482	1,500	1,731.22	F100545	-12.33	1,556.93
F103488	1,500	1,789.81	F100545	-16.59	1,578.56
F100377	1,500	1,822.18	F100545	-14.93	1,616.61

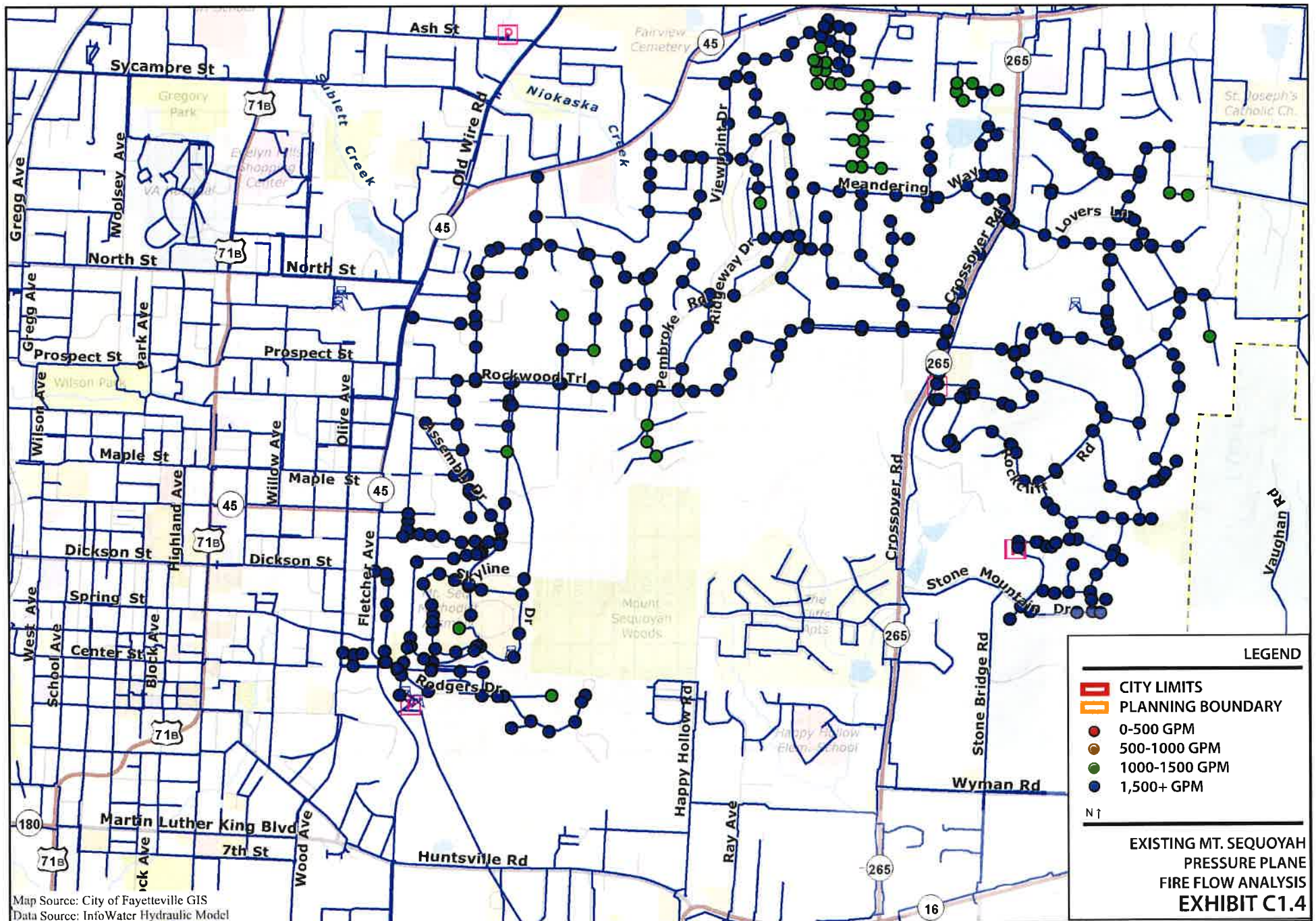


TABLE C1.4**Existing Mt. Sequoyah Pressure Plane Fire Flow Results****Fayetteville Water Master Plan**

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F108266	1,500	1,129.19	F108266	20.00	1,253.86
F105561	1,500	1,174.50	F105561	20.00	1,394.10
F102952	1,500	1,258.55	F102952	20.00	1,302.31
F106328	1,500	1,270.39	V102658	0.31	1,209.59
F106332	1,500	1,296.31	F106332	20.00	1,342.58
F102862	1,500	1,316.19	V102658	1.26	1,259.03
F110486	1,500	1,326.96	F110486	20.00	1,374.74
J1584	1,500	1,336.97	J1584	20.00	1,388.69
F118549	1,500	1,338.00	F118549	20.00	1,425.72
F113296	1,500	1,341.26	F113297	20.00	1,461.77
FH11226	1,500	1,342.31	V106198	-1.55	1,269.27
F104458	1,500	1,353.31	F104458	20.00	1,450.06
J2092	1,500	1,355.29	J2092	20.00	1,534.81
F118513	1,500	1,358.21	F118513	20.00	1,444.23
F102566	1,500	1,358.32	V102658	-5.43	1,258.79
F113195	1,500	1,362.43	F113195	20.00	1,444.11
F118515	1,500	1,362.47	F118549	17.92	1,431.87
F102570	1,500	1,375.84	F114411	12.77	1,397.68
FH02377	1,500	1,376.33	FH02377	20.00	1,435.80
F111800	1,500	1,381.24	F111800	20.00	1,468.12
F101751	1,500	1,381.36	F101751	20.00	1,640.77
V102662	1,500	1,389.41	V102658	-7.32	1,276.29
F118519	1,500	1,401.33	F118549	14.05	1,436.56
F107311	1,500	1,420.01	F107311	20.00	1,468.58
F104971	1,500	1,421.38	F110486	14.80	1,446.23
J2338	1,500	1,421.79	F113195	13.18	1,447.38
F102567	1,500	1,426.76	V102658	-10.49	1,292.08
F118514	1,500	1,443.65	F118549	9.71	1,441.17
FH12017	1,500	1,444.54	V102658	8.36	1,432.15
F108200	1,500	1,447.31	V102658	-7.21	1,330.04
F108199	1,500	1,449.33	V102658	-6.93	1,333.89
F118512	1,500	1,449.85	F118549	9.42	1,444.80
F114413	1,500	1,452.03	F114413	20.00	1,625.70
V102647	1,500	1,455.19	V102658	-11.12	1,314.18
F102860	1,500	1,465.65	V102658	-9.76	1,331.62
F102861	1,500	1,465.84	V102658	-10.04	1,329.98
F102564	1,500	1,466.51	V102658	-10.15	1,329.98
F114729	1,500	1,485.32	V102658	-8.02	1,360.16
F113971	1,500	1,490.85	F113971	20.00	1,586.25
F108204	1,500	1,495.42	V102658	-6.20	1,380.73

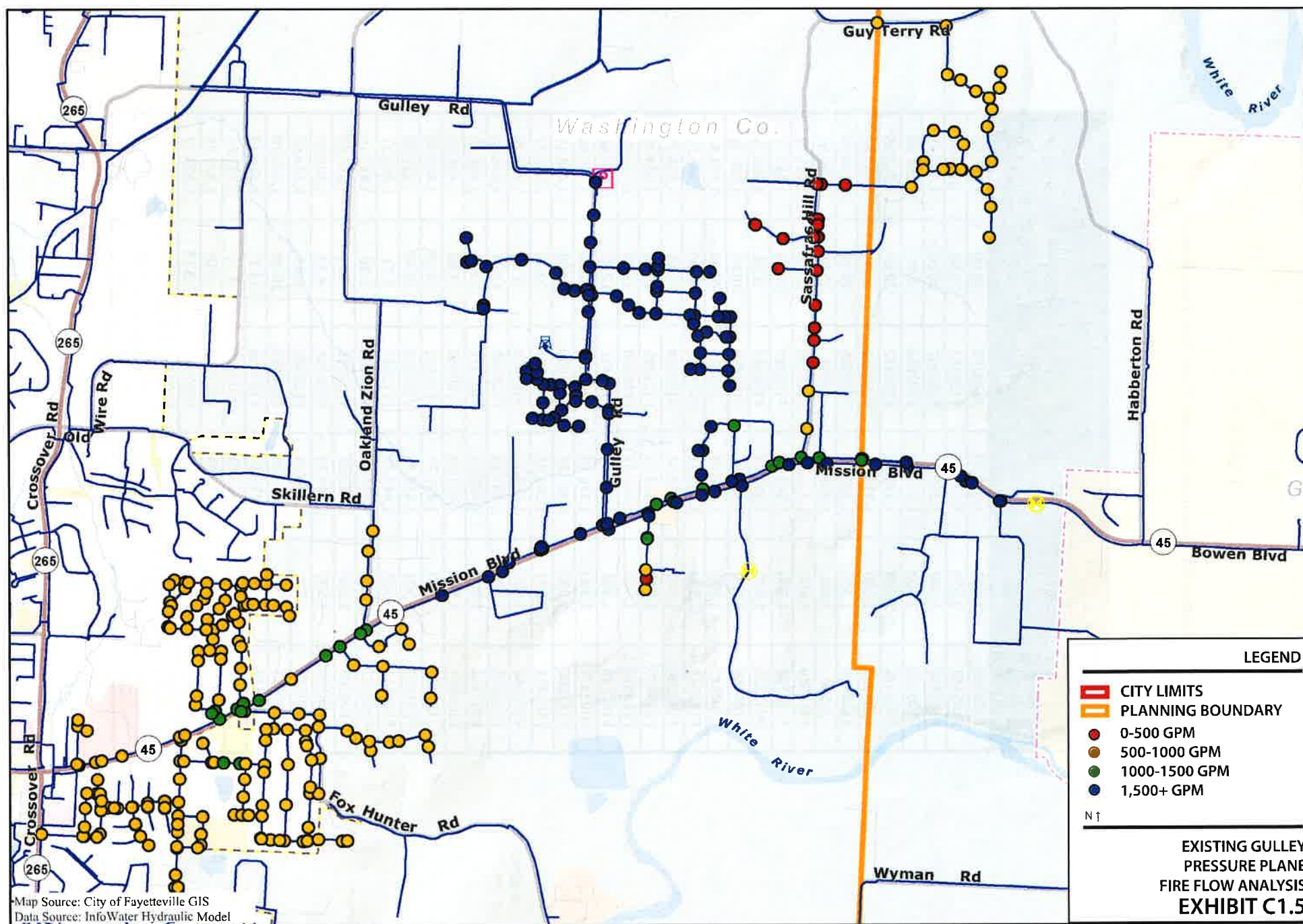


TABLE C1.5**Existing Gulley Pressure Plane Fire Flow Results****Fayetteville Water Master Plan**

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F116352	1,500	261.40	F114110	17.69	331.73
F100375	1,500	269.80	F114110	12.05	285.76
F116867	1,500	274.64	F114110	11.32	284.80
FH10401	1,500	279.20	F114110	10.73	284.80
F112369	1,500	279.80	F114110	13.03	304.84
J1016898A	1,500	281.57	F114110	10.44	284.86
F112303	1,500	284.12	F114110	10.13	285.02
J3256	1,500	284.63	F114110	10.04	284.86
F102673	1,500	290.91	F114110	9.61	287.83
F109596	1,500	290.99	F114110	9.72	288.75
F112302	1,500	293.31	F114110	8.92	285.07
J2962	1,500	301.54	F114110	15.48	356.50
F112110	1,500	304.32	F114110	7.44	285.04
F112304	1,500	350.07	F114110	12.38	374.12
J2294	1,500	354.46	F114110	3.00	301.16
F115246	1,500	374.56	F114110	-2.34	287.79
F112213	1,500	414.69	F114110	9.63	410.41
FH10400	1,500	464.45	F114110	-18.26	284.86
F112214	1,500	466.30	F114110	-18.15	287.29
FH02787	1,500	491.50	FH02787	20.00	873.01
F100203	1,500	525.01	F114110	6.55	481.96
F102929	1,500	561.64	F102929	20.00	607.69
F109594	1,500	566.78	F114110	-38.55	284.86
F104866	1,500	569.81	F104866	20.00	617.72
F109570	1,500	589.12	F114110	-43.29	285.19
F107313	1,500	595.04	J1598	18.56	664.35
J1726	1,500	598.16	FH02787	17.59	873.01
F109593	1,500	613.28	F114110	-48.57	285.57
F114303	1,500	613.47	J1598	16.25	663.66
FH11886	1,500	615.59	FH11886	20.00	671.95
FH02785	1,500	618.78	F114110	-49.98	284.86
FH11892	1,500	621.20	FH11892	20.00	690.13
F107299	1,500	624.43	F107299	20.00	683.20
F102175	1,500	628.50	FH11892	19.47	693.59
V100450	1,500	631.16	FH02787	17.66	925.41
F102928	1,500	641.30	J1612	18.73	685.32
F114247	1,500	646.15	F104866	12.65	659.36
J1592	1,500	651.38	J1598	14.10	685.26
F109588	1,500	657.78	F114110	-58.96	285.18
F113278	1,500	660.96	F107299	18.44	712.91
FH12072	1,500	661.62	J1598	12.74	684.24

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F109587	1,500	664.30	F114110	-60.59	284.86
FH11885	1,500	664.56	F104866	11.98	674.64
F105734	1,500	665.93	J1598	12.33	685.11
F105108	1,500	666.60	J1598	12.43	686.64
F105109	1,500	671.16	J1598	11.63	684.58
FH11168	1,500	675.36	J1598	14.34	713.14
FH02778	1,500	675.39	F114110	-63.18	284.86
F109556	1,500	675.68	F114110	-62.63	287.69
FH12066	1,500	676.04	J1598	9.43	671.53
F109584	1,500	676.20	F114110	-63.46	284.86
F102173	1,500	678.36	F102173	20.00	758.65
F114304	1,500	682.24	J1598	9.00	674.33
FH12064	1,500	685.90	J1598	9.79	684.24
F108590	1,500	686.08	J1598	13.47	716.25
FH02784	1,500	688.58	F114110	-66.48	284.86
F101650	1,500	689.30	J1598	13.44	719.14
F114306	1,500	691.19	J1598	9.20	684.75
F109564	1,500	691.31	F114110	-67.12	284.86
F105105	1,500	691.37	J1598	9.23	685.15
FH02781	1,500	691.80	F114110	-67.25	284.86
FH02786	1,500	692.06	F114110	-67.34	284.86
F109575	1,500	692.37	F114110	-66.22	289.64
F109567	1,500	693.42	F114110	-67.49	285.45
F109566	1,500	694.49	F114110	-67.91	284.86
F102420	1,500	695.18	J1598	8.73	684.91
F109565	1,500	696.61	F114110	-68.05	286.42
F106124	1,500	697.02	J1598	11.95	713.90
F102399	1,500	697.74	J1598	8.56	686.14
FH11884	1,500	697.95	F107299	16.55	739.91
V103728	1,500	699.01	J1598	8.44	686.40
F109581	1,500	699.30	F114110	-66.55	295.26
FH02783	1,500	700.87	F114110	-69.52	284.86
F109579	1,500	701.16	F114110	-68.54	289.09
F105107	1,500	702.25	J1598	8.11	686.99
F114911	1,500	703.22	J1612	16.66	739.66
F109582	1,500	703.33	F114110	-70.14	284.86
F109576	1,500	705.01	F114110	-70.55	284.86
FH12063	1,500	706.61	J1598	7.23	684.24
F102415	1,500	707.69	J1598	7.38	686.54
FH02378	1,500	708.68	J1598	6.97	684.24
F109562	1,500	708.71	F114110	-71.44	284.86
F102416	1,500	710.44	J1598	7.29	688.61
F102985	1,500	711.23	J1598	6.71	684.71
FH02779	1,500	712.74	F114110	-72.45	284.86
FH11167	1,500	716.24	J1598	9.63	713.14
F114454	1,500	720.90	F114454	20.00	779.79
F112746	1,500	721.22	J1598	9.24	714.78
F107318	1,500	727.69	J1598	13.56	760.41

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
FH12065	1,500	728.72	J1598	4.44	684.24
F102417	1,500	728.85	J1598	4.42	684.24
F102398	1,500	732.19	J1598	4.17	685.61
F103182	1,500	742.05	F103182	20.00	808.01
J3412	1,500	743.05	J1598	10.70	749.40
J1428	1,500	744.68	F114110	-80.59	284.86
FH12101	1,500	744.97	J1598	10.49	749.40
FH12062	1,500	748.49	J1598	10.10	749.40
F108591	1,500	749.97	J1598	5.71	713.78
F102982	1,500	750.49	J1598	3.05	694.25
F102981	1,500	750.50	J1598	4.54	705.30
FH12069	1,500	750.78	J1598	4.38	704.24
FH12068	1,500	751.33	J1598	2.88	693.68
V107755	1,500	756.86	J1598	10.91	765.42
FH12090	1,500	766.99	J1598	9.51	762.51
FH03688	1,500	767.09	J1598	9.81	765.42
F102603	1,500	769.39	J1598	0.72	694.78
FH10335	1,500	770.65	J1598	9.43	765.38
F115204	1,500	775.72	J1598	2.62	714.00
F102418	1,500	776.27	J1598	1.49	706.41
F112749	1,500	777.14	J1598	2.34	713.14
FH14443	1,500	777.19	J1598	2.33	713.14
F100298	1,500	777.27	J1598	9.24	770.29
F112747	1,500	779.15	J1598	2.09	713.14
V100720	1,500	783.30	J1598	8.35	768.08
V110738	1,500	784.94	J1598	6.04	749.40
F103385	1,500	785.20	J1598	8.60	772.30
F114255	1,500	787.23	J1598	7.85	767.49
F102412	1,500	787.42	J1598	5.76	749.40
F112741	1,500	792.67	J1598	0.56	714.23
F112435	1,500	792.98	J1598	5.17	749.83
F103383	1,500	795.77	J1598	7.20	770.09
F103212	1,500	796.73	J1598	6.97	768.88
F103206	1,500	797.54	J1598	6.50	765.42
F114308	1,500	798.26	J1598	4.73	751.20
F100290	1,500	799.86	J1598	6.62	768.82
F114245	1,500	800.82	J1598	5.93	763.78
F103387	1,500	807.32	J1598	6.45	774.79
F102471	1,500	807.37	J1598	6.41	774.45
V100722	1,500	807.56	J1598	5.39	765.42
F102419	1,500	810.31	J1598	-1.70	713.73
F100296	1,500	810.71	J1598	5.26	767.40
F100288	1,500	815.38	J1598	4.62	766.33
F102388	1,500	815.45	J1598	4.37	764.32
F103384	1,500	817.04	J1598	4.46	766.55
FH10337	1,500	817.13	J1598	4.32	765.38
F114284	1,500	818.17	J1598	4.67	769.55
F105094	1,500	822.39	J1598	3.16	760.68

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F114244	1,500	823.36	J1598	3.33	763.06
F114282	1,500	824.13	J1598	3.89	768.57
F100295	1,500	826.47	J1598	3.59	768.20
F100254	1,500	826.71	F100254	20.00	903.28
F106119	1,500	827.17	J1598	3.12	765.10
F112745	1,500	828.01	J1598	-4.01	713.14
FH12100	1,500	830.80	J1598	2.86	766.01
FH10339	1,500	833.95	J1598	2.43	765.42
FH12085	1,500	834.23	J1598	1.81	760.56
F100297	1,500	834.89	J1598	2.51	767.03
FH12084	1,500	834.90	J1598	1.68	760.19
FH10340	1,500	835.36	J1598	2.28	765.45
F103201	1,500	837.71	J1598	2.59	770.55
FH10334	1,500	838.95	J1598	1.86	765.36
F104865	1,500	839.21	F102173	14.06	877.17
F107687	1,500	839.22	J1598	1.78	765.40
F100289	1,500	839.40	J1598	1.87	765.87
F102407	1,500	839.69	J1598	1.89	766.65
F102425	1,500	840.75	J1598	1.10	760.86
F105092	1,500	841.31	J1598	1.04	760.98
F102386	1,500	846.70	J1598	0.64	762.85
F103204	1,500	848.01	J1598	1.42	770.50
F100291	1,500	848.52	J1598	1.46	771.40
F102424	1,500	849.00	J1598	0.30	762.29
FH12088	1,500	849.52	J1598	-0.06	759.70
F107686	1,500	850.42	J1598	-0.20	759.53
FH12093	1,500	850.64	J1598	-0.53	757.07
F107685	1,500	851.19	J1598	0.01	762.08
F103205	1,500	851.65	J1598	0.77	768.45
FH02968	1,500	852.12	J1598	-0.38	759.47
F102976	1,500	852.17	J1598	-0.61	757.86
F107688	1,500	855.97	J1598	-0.74	760.58
F103374	1,500	857.42	J1598	0.35	770.57
F109155	1,500	860.11	J1598	-1.27	759.82
F109154	1,500	861.29	J1598	-1.45	759.47
F115113	1,500	864.85	F114110	-7.79	613.15
F103393	1,500	864.85	J1598	-1.12	765.19
F105089	1,500	865.31	J1598	-1.85	760.11
F102408	1,500	865.89	J1598	-1.45	763.68
F109159	1,500	867.10	J1598	-1.77	762.47
F103215	1,500	871.40	J1598	-1.58	767.76
F100294	1,500	873.96	J1598	-1.73	768.98
F114252	1,500	877.40	F114252	20.00	966.90
F109158	1,500	877.63	J1598	-2.96	762.84
FH10336	1,500	888.80	J1598	-3.88	765.38
FH12094	1,500	889.45	J1598	-5.26	755.97
F102387	1,500	891.69	J1598	-4.70	762.10
F107692	1,500	891.78	J1598	-4.62	763.59

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F105097	1,500	892.06	J1598	-4.03	767.48
F100292	1,500	893.31	J1598	-4.09	768.14
F103377	1,500	895.72	J1598	-4.48	767.18
F115814	1,500	896.37	J1598	-5.92	757.36
FH12096	1,500	897.81	J1598	-6.25	756.03
FH10333	1,500	899.15	J1598	-5.10	765.38
F105086	1,500	899.54	J1598	-5.14	766.41
FH12082	1,500	900.16	J1598	-5.35	764.40
F100293	1,500	901.79	J1598	-4.95	769.29
F103376	1,500	902.50	J1598	-5.36	766.48
F103389	1,500	902.55	J1598	-5.35	766.68
F103380	1,500	903.02	J1598	-5.03	769.86
F103375	1,500	904.22	J1598	-5.45	767.48
F115812	1,500	907.81	J1598	-7.48	755.82
FH12097	1,500	908.75	J1598	-7.23	758.31
F110892	1,500	914.95	J1598	-7.34	764.26
F114299	1,500	916.89	J1598	-12.75	730.01
F105099	1,500	919.15	J1598	-7.58	764.63
F102410	1,500	923.07	J1598	-8.00	764.97
F102409	1,500	924.35	J1598	-11.11	746.20
V103682	1,500	927.06	J1598	-7.99	769.07
F107294	1,500	929.05	J1598	-8.14	769.92
FH12092	1,500	929.15	J1598	-11.91	744.47
F102391	1,500	930.74	J1598	3.37	863.88
F105079	1,500	936.72	J1598	-8.11	777.42
FH03053	1,500	936.87	J1598	-11.18	754.91
J1608	1,500	942.00	J1608	20.00	1,039.42
J1606	1,500	952.09	J1598	17.64	1,048.25
F102427	1,500	955.44	J1598	-12.58	761.86
FH02181	1,500	956.84	J1598	-12.28	763.75
F105104	1,500	959.17	J1598	-14.99	748.85
F107684	1,500	960.78	J1598	-12.89	764.73
F107319	1,500	963.87	J1598	-15.46	749.58
F102426	1,500	968.85	J1598	-15.95	750.79
F105100	1,500	972.34	J1598	-13.68	767.91
F106120	1,500	976.58	J1598	-17.06	749.72
F106127	1,500	977.05	J1598	-14.10	769.21
FH12099	1,500	978.38	J1598	-14.48	766.70
J1610	1,500	979.19	J1598	15.40	1,046.60
FH12073	1,500	981.84	J1598	-17.55	750.71
F107323	1,500	990.72	J1598	-18.61	751.95
V108040	1,500	992.47	J1598	-18.30	754.13
V103710	1,500	1,000.05	J1598	-19.43	753.22
F105082	1,500	1,000.24	J1598	-16.96	768.64
F114298	1,500	1,002.49	J1598	-20.14	751.16
F102423	1,500	1,009.49	J1598	-17.18	774.23
F112177	1,500	1,012.48	J1598	-18.74	767.70
F111876	1,500	1,013.23	J1598	-19.34	763.79

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F105096	1,500	1,014.74	J1598	-18.22	771.97
F114254	1,500	1,027.48	J1598	-13.70	814.22
F102411	1,500	1,028.54	J1598	-20.68	767.46
F107295	1,500	1,042.30	J1598	4.64	981.29
F102393	1,500	1,043.95	J1598	2.08	957.77
F112094	1,500	1,050.53	J1598	-24.56	761.19
F100355	1,500	1,082.78	F100355	20.00	1,312.27
F102644	1,500	1,092.76	F114110	7.89	1,034.04
V110748	1,500	1,094.49	J1598	5.93	1,045.26
F100198	1,500	1,101.28	F114110	7.65	1,034.04
F103172	1,500	1,105.59	F114110	7.72	1,039.98
F112438	1,500	1,110.21	J1598	6.33	1,065.08
F114106	1,500	1,165.57	F114106	20.00	1,393.80
F114253	1,500	1,228.24	J1598	5.21	1,164.89
F100204	1,500	1,258.29	F114110	-7.54	888.20
F100354	1,500	1,313.49	F100354	20.00	1,530.67
F100202	1,500	1,358.54	F114110	-17.58	843.27
F100352	1,500	1,360.93	F114110	-8.42	947.57
F106758	1,500	1,370.62	FH02787	4.44	1,141.32
FH10236	1,500	1,372.14	FH02787	4.63	1,148.03
F100201	1,500	1,382.51	F114110	-5.65	1,001.56
F118382	1,500	1,383.72	FH02787	12.49	1,546.56

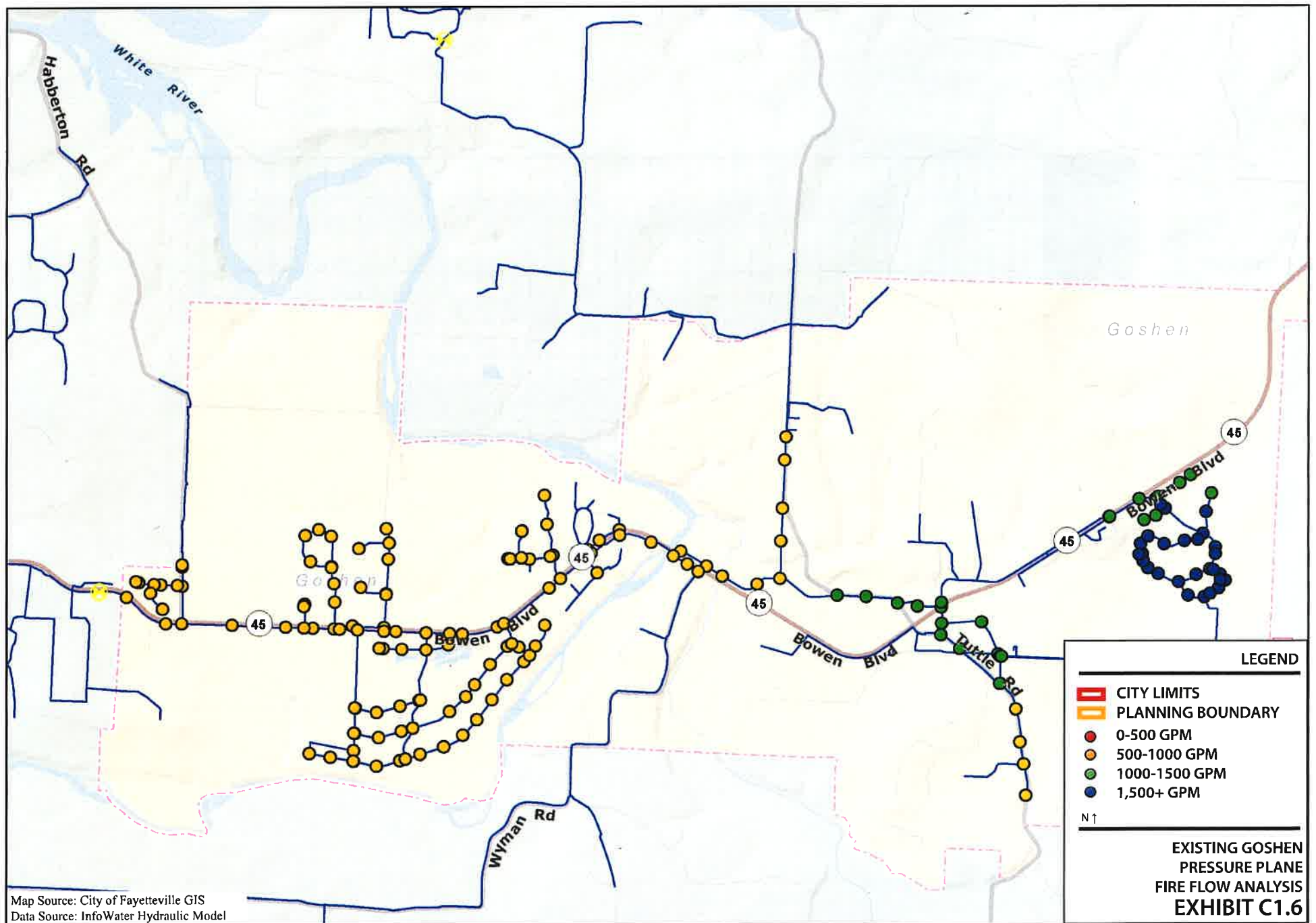


TABLE C1.6

Existing Goshen Pressure Plane Fire Flow Results

Fayetteville Water Master Plan

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
FH03468	1,500	590.18	F112076	-48.32	388.64
F114165	1,500	638.55	F112076	-54.27	415.11
F114114	1,500	655.16	F112076	-7.49	572.52
FH03465	1,500	697.02	F112076	-17.57	572.52
J1476	1,500	705.76	F112076	-18.77	576.52
J1480	1,500	714.59	F112076	-21.83	573.35
J1474	1,500	726.88	F112076	-25.26	572.52
F114164	1,500	731.76	F112076	-66.26	463.58
FH03461	1,500	743.21	F112076	-29.64	572.52
F118250	1,500	744.12	F112076	-29.53	573.84
V100319	1,500	756.11	F112076	-32.75	574.01
J1470	1,500	769.78	F112076	-36.71	573.58
F116329	1,500	774.97	F112076	-38.47	572.52
J1456	1,500	776.41	F112076	-38.89	572.52
FH03459	1,500	785.11	F112076	-41.40	572.52
J1460	1,500	785.82	F112076	-41.56	572.70
F114163	1,500	791.70	F112076	-67.39	508.58
FH02843	1,500	792.69	F112076	-43.37	572.52
F109618	1,500	793.90	F112076	-44.00	572.52
J2944	1,500	794.02	F112076	-44.03	572.52
FH10830	1,500	794.50	F112076	-44.18	572.52
FH10829	1,500	795.05	F112076	-44.34	572.52
F109619	1,500	799.25	F112076	-44.63	575.74
J1484	1,500	804.29	F112076	-43.58	584.34
F105411	1,500	806.64	F105412	14.55	824.62
FH03501	1,500	810.33	F112076	-48.90	572.52
F107325	1,500	810.63	F112076	-47.80	576.47
J1016894	1,500	811.74	F112076	-49.32	572.52
F100834	1,500	812.56	F112076	-49.52	572.52
J166	1,500	812.60	F112076	-49.58	572.52
J998	1,500	812.85	F112076	-49.66	572.52
V100675	1,500	814.13	F112076	-49.98	572.52
FH10836	1,500	814.72	F112076	-50.23	572.52
FH03205	1,500	815.10	F112076	-50.33	572.52
FH10827	1,500	815.74	F112076	-50.54	572.52
F105404	1,500	816.07	F112076	-50.64	572.52
F100894	1,500	817.53	F112076	-50.15	575.59
F117167	1,500	817.75	F112076	-49.86	576.76
F119440	1,500	818.84	F112076	-51.03	573.93
FH03443	1,500	819.72	F112076	-51.74	572.52
FH03193	1,500	820.88	F112076	-52.08	572.52
J164	1,500	820.97	F112076	-52.12	572.52
FH10828	1,500	821.02	F112076	-52.14	572.52
FH02842	1,500	821.99	F112076	-52.45	572.52
FH03202	1,500	822.14	F112076	-52.46	572.52
J1016890	1,500	822.30	F112076	-52.51	572.52
F119437	1,500	822.38	F112076	-52.32	573.03
V100674	1,500	822.44	F112076	-52.49	572.52
F114116	1,500	823.81	F112076	-52.90	572.52
F100892	1,500	823.84	F112076	-52.43	574.44
FH03191	1,500	825.11	F112076	-53.35	572.52

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F114115	1,500	825.88	F112076	-53.56	572.52
FH03199	1,500	825.92	F112076	-53.61	572.52
FH03200	1,500	826.21	F112076	-53.69	572.52
FH03189	1,500	826.42	F112076	-53.78	572.52
F118193	1,500	826.55	F112076	-53.41	573.81
F116974	1,500	827.88	F112076	-53.72	574.12
F116483	1,500	829.00	F112076	-53.38	576.28
V107891	1,500	829.40	F112076	-53.79	575.47
FH10835	1,500	829.95	F112076	-54.91	572.52
FH03198	1,500	830.18	F112076	-54.94	572.52
F117073	1,500	830.25	F112076	-53.86	576.19
F100889	1,500	830.69	F112076	-54.83	573.11
F114124	1,500	830.82	F112076	-54.74	572.52
FH03190	1,500	830.93	F112076	-55.16	572.52
FH10817	1,500	830.95	F112076	-55.09	572.52
J124	1,500	831.02	F112076	-52.14	582.45
F116418	1,500	831.28	F112076	-55.16	572.52
F106064	1,500	831.42	F112076	-54.90	574.04
F100893	1,500	831.42	F112076	-54.95	573.84
J2954	1,500	831.82	F112076	-55.33	572.52
F117309	1,500	831.91	F112076	-55.37	572.52
J154	1,500	833.89	F112076	-55.12	575.57
V111202	1,500	834.10	F112076	-56.06	572.52
V100673	1,500	834.19	F112076	-56.08	572.52
F117310	1,500	834.32	F112076	-55.53	574.66
J1486	1,500	835.49	F112076	-56.51	572.93
J158	1,500	835.65	F112076	-54.56	579.20
J1490	1,500	835.80	F112076	-56.58	572.61
V111201	1,500	838.36	F112076	-57.35	572.63
FH03748	1,500	838.77	F112076	-57.54	572.52
F116419	1,500	839.12	F112076	-57.65	572.52
V100648	1,500	839.81	F112076	-57.81	572.52
F117307	1,500	840.23	F112076	-57.41	574.21
J128	1,500	844.02	F112076	-56.60	581.07
F118271	1,500	845.05	F112076	-59.65	572.52
FH10832	1,500	845.43	F112076	-59.74	572.52
J140	1,500	845.90	F112076	-58.52	576.77
F107275	1,500	846.71	F112076	-60.18	572.52
FH03186	1,500	846.99	F112076	-60.23	572.52
F117797	1,500	847.24	F112076	-58.82	577.32
V100645	1,500	848.85	F112076	-60.64	572.52
F106050	1,500	849.36	F112076	-57.93	582.26
F105403	1,500	849.48	F112076	-60.58	572.52
FH02845	1,500	849.81	F112076	-61.15	572.52
FH03195	1,500	850.60	F112076	-61.38	572.52
V108084	1,500	851.01	F112076	-61.53	572.52
V107928	1,500	851.70	F112076	-61.06	574.71
FH03184	1,500	852.59	F112076	-62.04	572.52
F100890	1,500	852.65	F112076	-61.84	572.52
F116973	1,500	852.97	F112076	-61.03	575.84
J114	1,500	853.56	F112076	-60.70	577.68
FH03180	1,500	854.49	F112076	-62.62	572.52
F100891	1,500	855.39	F112076	-60.51	580.00
FH03182	1,500	856.33	F112076	-63.24	572.52
F100885	1,500	857.36	F105412	2.17	824.78
J146	1,500	858.06	F112076	-60.54	582.61
J120	1,500	858.06	F112076	-61.17	580.69
F111440	1,500	862.91	F112076	-64.73	573.87

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
FH10823	1,500	863.16	F112076	-65.19	572.52
J136	1,500	863.50	F112076	-61.45	585.21
F116532	1,500	864.16	F112076	-64.78	575.44
FH10834	1,500	864.82	F112076	-66.02	572.52
F116533	1,500	866.90	F112076	-64.95	577.70
F107151	1,500	870.29	F112076	-66.00	578.05
FH03187	1,500	870.86	F112076	-67.93	572.52
FH10814	1,500	874.43	F112076	-68.82	572.52
F110659	1,500	877.08	F112076	-69.69	572.52
J132	1,500	878.93	F112076	-67.34	582.49
F114125	1,500	887.24	F112076	-73.05	572.52
F116046	1,500	888.86	F112076	-73.17	573.72
F114159	1,500	894.15	F105412	9.27	887.10
F105117	1,500	907.30	F112076	-79.75	572.52
V109571	1,500	913.91	F112076	-82.03	572.52
F114129	1,500	932.99	F112076	-88.37	572.52
F114130	1,500	973.12	F112076	-103.82	572.73
F114162	1,500	983.14	F105412	17.16	1,018.40
F110507	1,500	998.96	F112076	-113.65	572.52
F114136	1,500	1,070.19	F112076	-77.26	683.99
F114137	1,500	1,073.50	F112076	-98.62	642.81
F115097	1,500	1,193.31	F112076	-83.91	743.89
F100873	1,500	1,200.06	F112076	-8.12	1,046.13
F114135	1,500	1,248.60	F112076	-77.98	794.55
F109099	1,500	1,258.96	F109151	5.41	1,072.02
F109098	1,500	1,289.12	F109151	4.55	1,071.62
F110500	1,500	1,339.98	F109151	3.05	1,073.49
FH02947	1,500	1,343.10	F109151	2.92	1,072.36
F115006	1,500	1,360.34	F112076	-77.34	864.51
F100866	1,500	1,363.32	F112076	-78.03	864.07
F103829	1,500	1,377.49	F112076	-76.56	875.15
F114141	1,500	1,381.15	F112076	-46.48	987.06
F100878	1,500	1,392.81	F112076	-49.40	983.49
F100897	1,500	1,415.78	F112076	-61.41	952.36
F109093	1,500	1,430.92	F109151	0.14	1,072.05
F100874	1,500	1,436.50	F112076	-46.43	1,023.84
FH02948	1,500	1,437.66	F109151	-0.08	1,071.62
F109104	1,500	1,440.94	F109151	-0.19	1,071.49
F100871	1,500	1,449.83	F112076	-72.71	932.45
F109096	1,500	1,459.91	F109151	-0.82	1,071.62
F100876	1,500	1,460.41	F112076	-44.50	1,045.11
F100877	1,500	1,462.92	F112076	-44.48	1,047.06
FH02849	1,500	1,469.14	F112076	-44.41	1,052.13
F109112	1,500	1,488.56	F109151	-1.73	1,071.86
F109106	1,500	1,495.56	F109151	-2.00	1,072.22

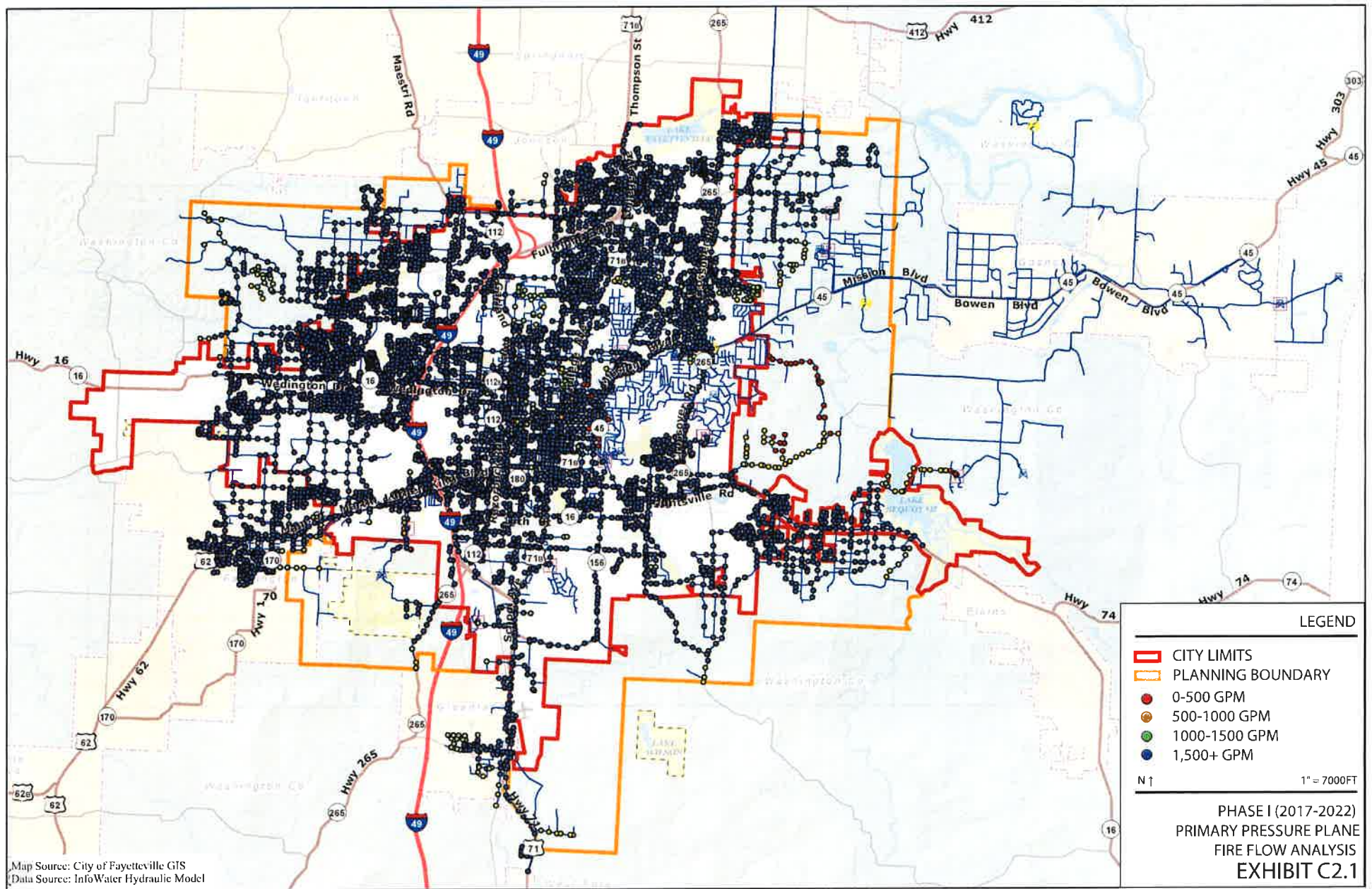


TABLE C2.1

**Phase I Primary Pressure Plane Fire Flow Results
(2017 - 2022)**

Fayetteville Water Master Plan

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F111751	1,500	-0.10	F111751	13.89	7,474.05
F105909	1,500	0.25	F105909	18.34	770.55
F117382	1,500	1.03	F117382	18.11	2,972.88
F116411	1,500	1.86	J2258	8.92	731.63
F107071	1,500	2.16	F107071	18.00	3,722.92
F101489	1,500	58.88	F101489	20.00	65.37
F100432	1,500	112.56	J2258	8.92	117.40
J2130	1,500	158.11	J2258	8.92	165.98
F114984	1,500	198.17	F114557	14.32	203.88
J2008	1,500	209.85	J2008	20.00	233.09
F115205	1,500	249.62	J2008	3.94	236.12
F114243	1,500	302.93	J2008	-20.10	238.89
F114459	1,500	353.87	F114459	20.00	396.30
F102172	1,500	362.45	J2008	-47.02	245.96
F112151	1,500	365.31	F116411	14.44	911.54
F115207	1,500	380.64	J2008	-57.24	244.99
F116398	1,500	385.49	F114459	13.96	401.45
F115208	1,500	397.02	J2008	-62.69	249.86
V103375	1,500	405.95	J2008	-65.27	251.69
F104061	1,500	409.72	F114459	6.59	395.47
F103858	1,500	410.46	F105427	12.61	418.72
F100904	1,500	413.80	F105427	11.99	420.09
F102174	1,500	416.91	J2008	-66.06	257.30
F114228	1,500	418.68	J2008	-66.65	257.72
F114227	1,500	419.95	J2008	-67.53	257.52
FH03420	1,500	421.20	J2008	-67.98	257.75
F102119	1,500	421.98	J2008	-68.33	257.87
F102919	1,500	423.48	J2008	-69.13	257.91
F100837	1,500	433.25	F105427	5.38	418.92
F104062	1,500	434.66	F114459	8.39	427.28
F104802	1,500	450.81	J2008	-53.18	296.32
F115209	1,500	456.76	J2008	-68.00	280.21
F105497	1,500	462.64	F114459	-1.23	415.80
F105981	1,500	463.33	F105981	20.00	746.48
F104063	1,500	475.84	F114459	-2.53	422.37
F114242	1,500	476.13	J2008	-71.57	306.23
F104801	1,500	482.37	J2008	-62.88	303.60
F101456	1,500	483.23	F105427	-8.56	426.66
F102990	1,500	498.30	J2008	-47.43	337.63
F101534	1,500	504.81	F105576	6.61	479.28
F102604	1,500	505.65	J2008	-50.46	337.55
F116817	1,500	508.78	F113714	16.21	539.95
F101179	1,500	513.39	J2008	-51.27	341.35
F101178	1,500	515.88	J2008	-54.77	337.32
F114236	1,500	529.40	J2008	-67.73	326.60
F116953	1,500	530.10	F116953	20.00	595.12
F101183	1,500	531.47	F114459	-19.17	416.06
F115769	1,500	531.87	F105576	5.03	493.53
F106048	1,500	532.43	F105427	-22.05	435.73
F101180	1,500	532.88	J2008	-51.71	354.16
J2348	1,500	532.95	F105576	6.65	507.65
F101182	1,500	533.37	J2008	-20.81	421.10
F104064	1,500	539.55	F114459	-15.38	433.15

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F101181	1,500	549.83	J2008	-42.82	382.44
F105498	1,500	553.04	F114459	-25.56	414.73
F114460	1,500	561.99	J2008	-38.35	400.49
F101455	1,500	577.52	F105427	-34.53	444.14
F118150	1,500	585.35	F105427	-35.73	447.73
F103621	1,500	594.13	F103621	20.00	619.63
F112564	1,500	606.75	F112564	20.00	747.41
F101184	1,500	612.99	F114459	-42.43	417.21
J842	1,500	614.82	J842	20.00	782.70
F116622	1,500	615.56	F112564	19.44	747.56
V110776	1,500	615.59	F112564	19.44	747.58
F112566	1,500	615.68	F112564	19.44	747.66
F112567	1,500	621.24	F112564	19.08	747.65
F119164	1,500	621.36	F112564	19.08	747.79
F112569	1,500	632.14	F112564	18.53	750.16
F113954	1,500	632.64	F105427	-39.28	475.86
F101185	1,500	633.18	F114459	-48.74	416.91
F115063	1,500	633.22	F114459	-38.70	438.36
F105494	1,500	634.54	F105494	20.00	815.68
F108965	1,500	640.94	F105427	-34.68	492.03
F113308	1,500	645.51	F105578	-4.52	504.44
F113376	1,500	647.71	F112564	19.25	782.47
F101454	1,500	656.60	F105427	-35.21	502.84
F119212	1,500	668.95	F119212	20.00	729.72
F101533	1,500	670.19	F105578	-7.35	504.13
F101186	1,500	689.71	F114459	-55.05	438.67
F102740	1,500	695.03	F115178	-30.87	415.00
J944	1,500	696.18	F115178	-30.98	415.51
F103762	1,500	720.48	F103762	20.00	764.77
F104224	1,500	724.21	F105427	-44.72	531.18
F113685	1,500	729.33	F113685	20.00	859.44
J2300	1,500	734.13	J2300	20.00	835.79
F113684	1,500	739.80	F113684	20.00	868.56
F112928	1,500	746.78	F112927	2.90	655.99
V111364	1,500	750.73	V111365	10.62	753.56
F104068	1,500	768.18	F114459	-62.85	472.43
F113028	1,500	769.31	F113028	20.00	931.39
V107887	1,500	772.45	V107887	20.00	950.39
F101460	1,500	783.38	F105578	-7.93	583.64
F113952	1,500	789.48	F105427	-49.52	567.02
F101187	1,500	813.73	F114459	-66.53	493.30
F110315	1,500	823.69	F112927	-3.84	655.99
F100743	1,500	833.30	F115178	-56.53	416.64
F105598	1,500	847.68	F114459	5.29	810.23
F101458	1,500	851.43	F105427	-48.07	614.75
F116524	1,500	851.71	F112927	-6.38	656.30
V108941	1,500	857.99	F112927	-6.99	655.99
F114626	1,500	865.79	F114626	20.00	1,014.27
F114457	1,500	869.26	F114459	2.61	811.07
F117861	1,500	875.11	J2258	8.91	918.10
F112511	1,500	879.70	F112511	20.00	991.63
F104069	1,500	887.73	F114459	-68.28	535.86
F102785	1,500	893.50	F105282	2.34	843.50

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
V108940	1,500	893.68	F112927	-10.39	655.99
FH14189	1,500	898.77	FH14189	20.00	1,137.06
F116394	1,500	899.04	F116394	20.00	1,142.10
F106926	1,500	904.80	F105282	2.46	854.95
F115860	1,500	909.93	J2258	8.91	952.74
F110728	1,500	920.95	F113866	17.87	959.88
F115872	1,500	928.14	F117326	17.67	1,095.44
FH11458	1,500	928.21	F105427	-46.33	674.47
F113867	1,500	933.31	F113866	17.05	968.46
V101475	1,500	933.39	F103762	20.00	991.48
F109632	1,500	941.09	F109632	20.00	976.62
J3028	1,500	950.94	F100244	15.62	999.14
V100679	1,500	963.10	V100679	20.00	1,010.06
F108902	1,500	963.47	F108902	20.00	999.89
F102812	1,500	963.60	F105427	-50.10	688.89
F113542	1,500	965.84	F105282	6.32	938.72
F106142	1,500	965.90	F114453	16.12	1,014.80
F113412	1,500	968.35	F115178	-63.99	462.47
F105719	1,500	968.68	F105719	20.00	1,076.85
J1616	1,500	969.24	F108674	13.16	1,019.34
F101189	1,500	974.74	F114459	-72.18	580.54
F115223	1,500	976.85	F114459	-12.06	810.90
V100678	1,500	979.45	V100678	20.00	1,035.52
F102813	1,500	989.98	F105427	-51.72	702.74
F104314	1,500	994.72	F114459	-69.31	600.57
F113866	1,500	996.03	F113866	20.00	1,042.35
F104580	1,500	997.10	F104580	20.00	1,043.30
F111916	1,500	1,000.45	F108674	8.79	982.67
F111915	1,500	1,005.60	F108674	9.09	992.18
F111914	1,500	1,008.80	F108674	9.09	995.31
F106445	1,500	1,011.45	F106445	20.00	1,065.63
F112453	1,500	1,013.51	J2300	11.69	1,034.38
F114834	1,500	1,033.75	F112927	-4.78	812.83
F112986	1,500	1,035.35	F114012	-2.54	982.40
FH14341	1,500	1,040.76	F108674	9.71	1,036.31
V102900	1,500	1,043.77	F113700	18.50	1,105.49
F114458	1,500	1,057.59	F114459	-23.99	810.30
F100255	1,500	1,058.16	F100244	9.95	1,057.17
V107888	1,500	1,059.42	V107887	9.88	1,056.94
F106331	1,500	1,063.67	F106331	20.00	1,191.94
F104228	1,500	1,064.01	F105427	-37.29	803.36
J1528	1,500	1,070.85	F105427	-24.92	858.72
J1526	1,500	1,076.38	F105427	-25.91	858.72
F117418	1,500	1,076.74	J2258	8.91	1,106.11
F107281	1,500	1,077.93	F105427	-26.19	858.72
J1620	1,500	1,078.17	F108674	8.21	1,050.04
V102777	1,500	1,084.87	F115279	-29.06	759.20
F118218	1,500	1,087.35	J2258	8.91	1,143.00
F102599	1,500	1,095.74	F102599	20.00	1,212.40
FH11291	1,500	1,098.50	FH11291	20.00	1,168.19
F100262	1,500	1,100.76	J2258	8.91	1,165.49
J1628	1,500	1,102.68	F108674	11.27	1,124.28
F102716	1,500	1,108.67	J2258	8.91	1,145.23

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F110313	1,500	1,110.32	F110313	20.00	1,162.96
V110931	1,500	1,113.20	V110931	20.00	1,148.33
V109028	1,500	1,114.66	V109028	20.00	1,167.72
F110314	1,500	1,114.95	V109028	20.00	1,168.02
F115184	1,500	1,116.11	F115184	20.00	1,179.10
F118032	1,500	1,117.10	F118032	20.00	1,170.37
F116576	1,500	1,118.51	F116576	20.00	1,190.90
FH02342	1,500	1,118.87	FH02342	20.00	1,191.85
F117424	1,500	1,120.66	J2258	8.91	1,173.24
F113697	1,500	1,126.76	F113697	20.00	1,272.49
F105718	1,500	1,127.55	F105718	20.00	1,220.04
F117200	1,500	1,135.43	J2258	8.91	1,192.07
F104579	1,500	1,136.17	F104579	20.00	1,190.62
F113377	1,500	1,143.04	F112564	-8.07	893.40
F101581	1,500	1,150.21	F114459	-66.61	705.94
F113359	1,500	1,151.05	F113361	17.85	1,203.78
F105489	1,500	1,152.95	F105489	20.00	1,207.24
F115917	1,500	1,157.18	J2258	8.91	1,214.96
F117862	1,500	1,157.22	J2258	8.91	1,185.98
V102893	1,500	1,157.47	V102893	20.00	1,233.34
V101487	1,500	1,169.28	F113478	19.32	1,224.26
F104137	1,500	1,175.81	F105427	-24.47	943.99
V102947	1,500	1,176.98	V102947	20.00	1,250.00
F109602	1,500	1,179.15	F109602	20.00	1,293.77
FH02344	1,500	1,182.38	FH02342	16.59	1,231.82
FH03753	1,500	1,182.43	FH03753	20.00	1,228.57
F102344	1,500	1,182.88	F102344	20.00	1,332.12
F118055	1,500	1,185.15	F118055	20.00	1,245.41
F112446	1,500	1,185.24	F112456	11.51	1,207.40
F107828	1,500	1,185.81	F117327	18.00	1,426.98
F113411	1,500	1,188.22	F115178	-70.21	545.29
FH11294	1,500	1,190.58	F112456	12.53	1,228.42
F112451	1,500	1,195.35	J1826	12.21	1,229.35
F112443	1,500	1,196.95	F112456	11.65	1,221.49
J1824	1,500	1,198.52	FH11291	15.89	1,241.79
F115959	1,500	1,199.15	F115959	20.00	1,289.56
F112450	1,500	1,199.84	J1826	12.21	1,234.03
F112243	1,500	1,204.22	J2258	8.91	1,248.81
F107017	1,500	1,205.98	F107017	20.00	1,262.30
F112448	1,500	1,208.00	J1826	12.22	1,242.57
FH10579	1,500	1,209.30	F107017	20.00	1,265.90
F113928	1,500	1,209.99	F105238	12.03	1,323.41
F109605	1,500	1,210.13	F109605	20.00	1,314.98
F107125	1,500	1,210.41	F107125	20.00	1,313.03
F108263	1,500	1,211.24	F113981	16.92	1,405.13
F117178	1,500	1,211.78	F116576	13.35	1,236.61
F101405	1,500	1,211.88	F101405	20.00	1,411.58
V106064	1,500	1,213.07	F105282	-5.33	1,087.05
F116556	1,500	1,213.64	J2258	8.91	1,256.08
J2072	1,500	1,216.39	J2072	20.00	1,374.93
V107490	1,500	1,216.78	F109605	19.20	1,313.01
V104455	1,500	1,216.85	F105592	18.91	1,261.89
F108260	1,500	1,218.30	F117327	16.99	1,426.98

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F115180	1,500	1,219.96	F105282	-5.33	1,093.22
F107952	1,500	1,221.04	F105282	-5.33	1,094.19
F115910	1,500	1,223.73	J2258	8.91	1,282.25
J1822	1,500	1,225.08	FH11291	12.18	1,240.99
F109604	1,500	1,226.51	F109602	17.84	1,317.39
FH12246	1,500	1,227.52	V101008	19.00	1,263.94
F112447	1,500	1,227.84	F105578	10.68	1,246.52
F106141	1,500	1,228.27	F114453	4.08	1,174.86
F108381	1,500	1,228.56	V101008	18.41	1,262.51
F107860	1,500	1,228.94	J2258	8.91	1,272.35
F104703	1,500	1,229.99	F105578	10.63	1,247.43
F108379	1,500	1,235.53	F102716	15.67	1,258.30
FH10324	1,500	1,235.99	F105278	18.74	1,316.20
F116044	1,500	1,239.44	J2258	8.91	1,302.11
V102172	1,500	1,240.32	V102172	20.00	1,389.45
J2320	1,500	1,242.34	J2320	20.00	1,351.03
F113686	1,500	1,243.17	F113686	20.00	1,465.02
F107048	1,500	1,245.01	F107048	20.00	1,328.26
J2318	1,500	1,249.63	J2318	20.00	1,348.22
FH02345	1,500	1,252.36	F105578	9.78	1,246.44
J94	1,500	1,253.02	J94	20.00	1,520.39
F106441	1,500	1,253.54	J2258	8.91	1,308.74
F100245	1,500	1,253.58	F100244	1.37	1,169.55
F113982	1,500	1,255.49	F113981	16.10	1,418.93
F115859	1,500	1,257.99	J2258	8.91	1,295.48
F101917	1,500	1,258.25	F117327	15.72	1,426.98
F112223	1,500	1,265.19	J2258	8.91	1,322.03
F114621	1,500	1,268.33	F114621	20.00	1,446.26
F101572	1,500	1,268.87	F114459	-58.32	810.23
F101714	1,500	1,269.33	F101714	20.00	1,330.51
F103945	1,500	1,269.41	F103945	20.00	1,333.39
V100193	1,500	1,270.27	V100193	20.00	1,330.52
V100092	1,500	1,271.59	V100092	20.00	1,349.96
F118090	1,500	1,272.51	J2258	8.91	1,336.68
F113312	1,500	1,274.61	F105578	-36.89	705.56
FH02384	1,500	1,275.19	F105578	8.95	1,246.44
F106693	1,500	1,281.64	F117327	14.96	1,426.98
F116552	1,500	1,284.08	J2258	8.91	1,317.17
F103888	1,500	1,288.74	J2258	8.91	1,354.33
F105438	1,500	1,291.42	J2258	8.91	1,338.35
F112879	1,500	1,292.30	F118055	16.29	1,332.53
J1570	1,500	1,292.81	FH03753	18.79	1,336.92
FH14563	1,500	1,300.60	F108674	-1.98	1,110.18
F108261	1,500	1,301.45	F117327	14.31	1,426.98
F104315	1,500	1,302.76	F114459	-52.80	854.97
F115271	1,500	1,305.42	F115271	20.00	1,359.15
F113683	1,500	1,305.67	F113685	19.22	1,518.42
J58	1,500	1,306.88	F118055	14.43	1,335.09
F101918	1,500	1,309.71	F117327	14.18	1,431.85
F106694	1,500	1,311.55	F117327	13.97	1,426.98
F115861	1,500	1,315.42	J2258	8.91	1,379.22
F114625	1,500	1,317.85	F114625	20.00	1,551.19
F109601	1,500	1,320.58	F109602	14.54	1,374.97

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F113320	1,500	1,326.69	F105578	7.04	1,246.89
F113497	1,500	1,329.15	F113497	20.00	1,397.70
V103618	1,500	1,329.34	V103618	20.00	1,447.69
F100452	1,500	1,331.73	F108674	-2.36	1,132.12
F113329	1,500	1,331.80	F105578	6.84	1,246.66
F106134	1,500	1,339.46	J2320	19.16	1,445.97
F101399	1,500	1,339.59	F101399	20.00	1,534.31
F115889	1,500	1,340.12	F105578	6.75	1,252.72
F100763	1,500	1,344.32	F113471	-6.64	1,221.49
F102648	1,500	1,355.58	F115092	5.50	1,297.72
F113331	1,500	1,356.31	F105578	5.92	1,247.10
F100257	1,500	1,356.73	F115092	5.50	1,298.82
FH10278	1,500	1,356.75	F115092	5.88	1,303.45
F102687	1,500	1,358.57	J2318	17.88	1,441.20
F107459	1,500	1,359.91	F107459	20.00	1,422.18
F100286	1,500	1,361.16	F107125	17.61	1,446.87
J1624	1,500	1,363.80	F108674	-5.10	1,124.28
F101400	1,500	1,365.35	F101400	20.00	1,565.24
FH03751	1,500	1,366.03	F105238	5.81	1,142.72
F101397	1,500	1,372.50	F114625	19.71	1,605.93
F103190	1,500	1,372.59	F115092	6.10	1,321.42
F100246	1,500	1,376.56	F108674	1.17	1,219.35
V106502	1,500	1,379.51	V106502	20.00	1,442.65
FH03916	1,500	1,380.25	FH03916	20.00	1,510.00
F117207	1,500	1,381.77	J2258	8.91	1,451.08
V101257	1,500	1,382.58	F115178	1.01	1,159.85
F113894	1,500	1,384.59	F113894	20.00	1,441.64
V108021	1,500	1,387.34	V108021	20.00	1,474.19
F116554	1,500	1,387.79	J2258	8.91	1,427.96
F100761	1,500	1,390.34	F105389	15.03	1,422.08
V110933	1,500	1,390.80	J2258	8.91	1,455.00
F105991	1,500	1,392.30	F105578	4.51	1,246.81
F112822	1,500	1,392.42	F112822	20.00	1,588.10
F109793	1,500	1,392.46	F105578	4.52	1,247.25
F108264	1,500	1,393.04	J2258	8.90	---
F102745	1,500	1,395.37	F103762	20.00	1,483.34
F105273	1,500	1,397.15	J2258	8.91	1,463.55
F100758	1,500	1,397.82	F103762	20.00	1,485.99
F102901	1,500	1,401.00	F102901	20.00	1,738.36
F106144	1,500	1,403.22	J2258	8.91	1,482.37
F101818	1,500	1,407.24	F114431	18.33	1,538.01
J1626	1,500	1,413.72	F108674	-7.38	1,137.43
F107476	1,500	1,415.87	F107476	20.00	1,488.58
V105664	1,500	1,416.44	V105664	20.00	1,488.94
F108013	1,500	1,417.47	F100262	15.89	1,465.77
F116584	1,500	1,422.86	J2258	8.91	---
F105564	1,500	1,423.37	F105564	20.00	1,547.93
F113543	1,500	1,432.36	F105282	-11.89	1,232.17
F108254	1,500	1,433.13	F117327	9.29	1,413.48
F114032	1,500	1,435.46	J2258	8.91	1,487.04
F116919	1,500	1,435.73	F116919	20.00	1,509.60
F113979	1,500	1,437.72	F117327	11.95	1,495.80
V100388	1,500	1,438.33	J2258	8.91	---

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F109598	1,500	1,440.76	F109602	9.88	1,439.29
F100083	1,500	1,440.97	J2258	8.91	1,483.20
F107884	1,500	1,442.76	J2258	8.91	---
F103351	1,500	1,445.14	F115178	9.81	1,438.76
FH03157	1,500	1,448.15	FH03157	20.00	1,520.28
F114988	1,500	1,448.23	F114988	20.00	1,545.49
F118006	1,500	1,449.00	F118006	20.00	1,523.39
F106698	1,500	1,449.62	F117327	11.55	1,495.80
F107676	1,500	1,449.96	F107676	20.00	1,612.74
F106132	1,500	1,450.29	F107125	12.34	1,476.87
V107750	1,500	1,450.56	V108021	17.95	1,521.11
F104698	1,500	1,451.01	F105578	2.18	1,246.52
V110553	1,500	1,451.54	V110553	20.00	1,520.52
F105706	1,500	1,452.92	F105706	20.00	1,515.44
F108257	1,500	1,454.12	F117327	8.40	1,410.34
F101916	1,500	1,454.40	F117327	11.05	1,485.32
F108511	1,500	1,456.02	F117327	10.25	1,463.17
FH03153	1,500	1,458.39	FH03153	20.00	1,529.83
F118237	1,500	1,461.39	F118237	20.00	1,551.11
F117882	1,500	1,461.58	F117882	20.00	1,675.86
F106913	1,500	1,462.15	F113497	17.76	1,519.84
V100510	1,500	1,463.44	V100510	20.00	1,550.75
F115091	1,500	1,464.75	F117327	11.05	1,495.80
F110528	1,500	1,465.55	FH03916	15.20	1,533.00
F102768	1,500	1,465.61	J2258	8.91	1,494.63
J354	1,500	1,465.91	V108021	18.61	1,544.05
J460	1,500	1,466.30	FH03916	15.45	1,537.07
V107748	1,500	1,467.05	J2258	8.91	---
V107746	1,500	1,467.87	V108021	16.21	1,523.24
V105137	1,500	1,469.15	V105137	20.00	1,545.74
F106980	1,500	1,469.45	F106980	20.00	1,546.05
F103397	1,500	1,469.86	J2320	12.32	1,497.23
V108020	1,500	1,470.00	F116919	18.38	1,532.91
V101280	1,500	1,472.21	V101280	20.00	1,537.38
J1074	1,500	1,473.53	J1074	20.00	1,546.11
V109271	1,500	1,474.92	FH03916	15.58	1,547.95
V106501	1,500	1,475.03	V106501	20.00	1,542.79
F110400	1,500	1,476.60	F110400	20.00	1,695.80
F112252	1,500	1,479.14	J2258	8.91	---
F104994	1,500	1,482.88	F104994	20.00	1,695.42
F113410	1,500	1,483.56	F115178	-73.62	663.88
F105221	1,500	1,485.60	F105221	20.00	1,579.84
J346	1,500	1,486.58	V108021	18.77	1,567.45
F106436	1,500	1,488.93	F106436	20.00	1,560.20
F102312	1,500	1,490.57	F114851	7.88	1,462.90
J348	1,500	1,492.48	V108021	18.21	1,568.07
F105723	1,500	1,492.66	V103604	17.97	1,738.36
F102484	1,500	1,493.86	F102484	20.00	1,565.35
J1070	1,500	1,497.63	FH03157	19.14	1,565.34
J1922	1,500	1,498.16	F110400	19.65	1,709.28
F115320	1,500	1,498.17	J2258	8.91	---
F100430	1,500	1,499.24	J2258	8.91	---
F118169	1,500	1,499.94	V108021	17.22	1,566.29

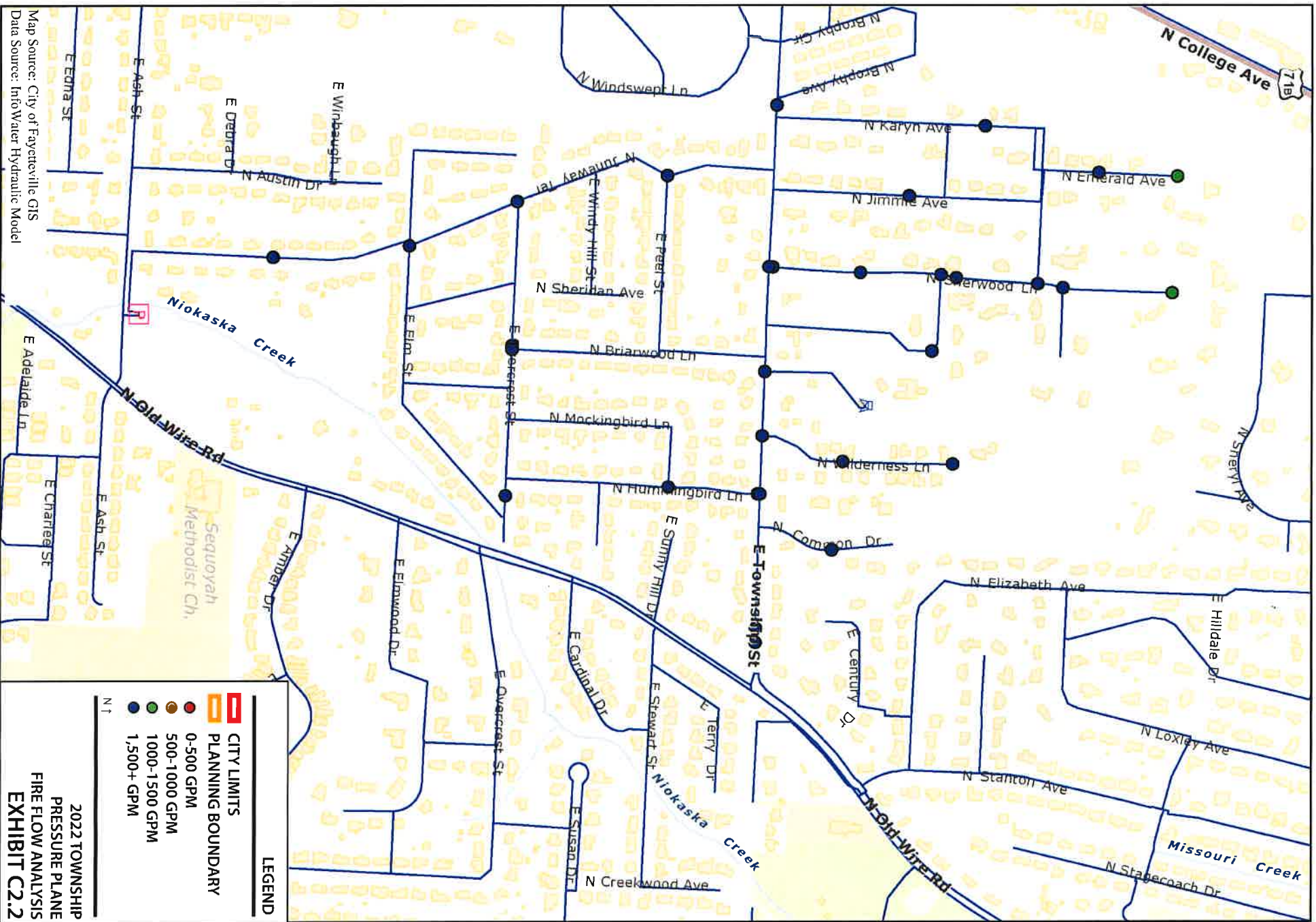


TABLE C2.2

**Phase I Township Pressure Plane Fire Flow Results
(2017 - 2022)**

Fayetteville Water Master Plan

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F106404	1,500	1,265.02	F106404	20.00	1,375.30
F112924	1,500	1,287.88	F112924	20.00	1,513.59
F106407	1,500	1,520.79	F106407	20.00	1,833.32
F100093	1,500	1,541.31	F112924	19.90	1,810.74
J3280	1,500	1,581.41	J3280	20.00	1,873.80
V108165	1,500	1,589.45	V108165	20.00	1,800.53
F106402	1,500	1,672.26	F106402	20.00	1,810.75
F107715	1,500	1,685.55	F106404	16.62	1,779.70
F102290	1,500	1,720.20	F102290	20.00	1,955.69
F115015	1,500	1,728.87	F106407	17.55	1,999.80
FH02198	1,500	1,892.16	F106407	12.71	1,984.82
V100262	1,500	1,940.24	V100262	20.00	2,111.25
F106406	1,500	1,980.47	F106407	13.64	2,114.24
F108212	1,500	2,077.88	F108212	20.00	2,293.72
J790	1,500	2,149.65	V108165	13.07	2,222.04
FH11960	1,500	2,172.78	FH11960	20.00	2,296.05
V106209	1,500	2,173.53	F114817	-3.41	1,934.66
FH11961	1,500	2,186.89	FH11961	20.00	2,332.31
F102287	1,500	2,208.77	FH11961	19.52	2,346.68
F108209	1,500	2,213.83	F114817	16.16	2,364.55
FH10097	1,500	2,306.54	J3280	3.34	2,108.04
F102310	1,500	2,363.93	F102310	20.00	2,535.19
F110614	1,500	2,370.07	F106407	8.14	2,297.21
FH03942	1,500	2,409.20	FH03942	20.00	2,582.92
J2114	1,500	2,420.30	FH03942	19.43	2,583.77
F112327	1,500	2,453.34	F106407	6.96	2,333.77
F112337	1,500	2,689.53	V108165	17.11	2,944.81
F112339	1,500	2,699.90	V108165	16.78	2,942.12
F112344	1,500	2,873.32	F106407	-3.15	2,376.75
F112335	1,500	2,878.10	V108165	10.31	2,885.17
F112331	1,500	3,377.04	F106407	1.68	2,970.08

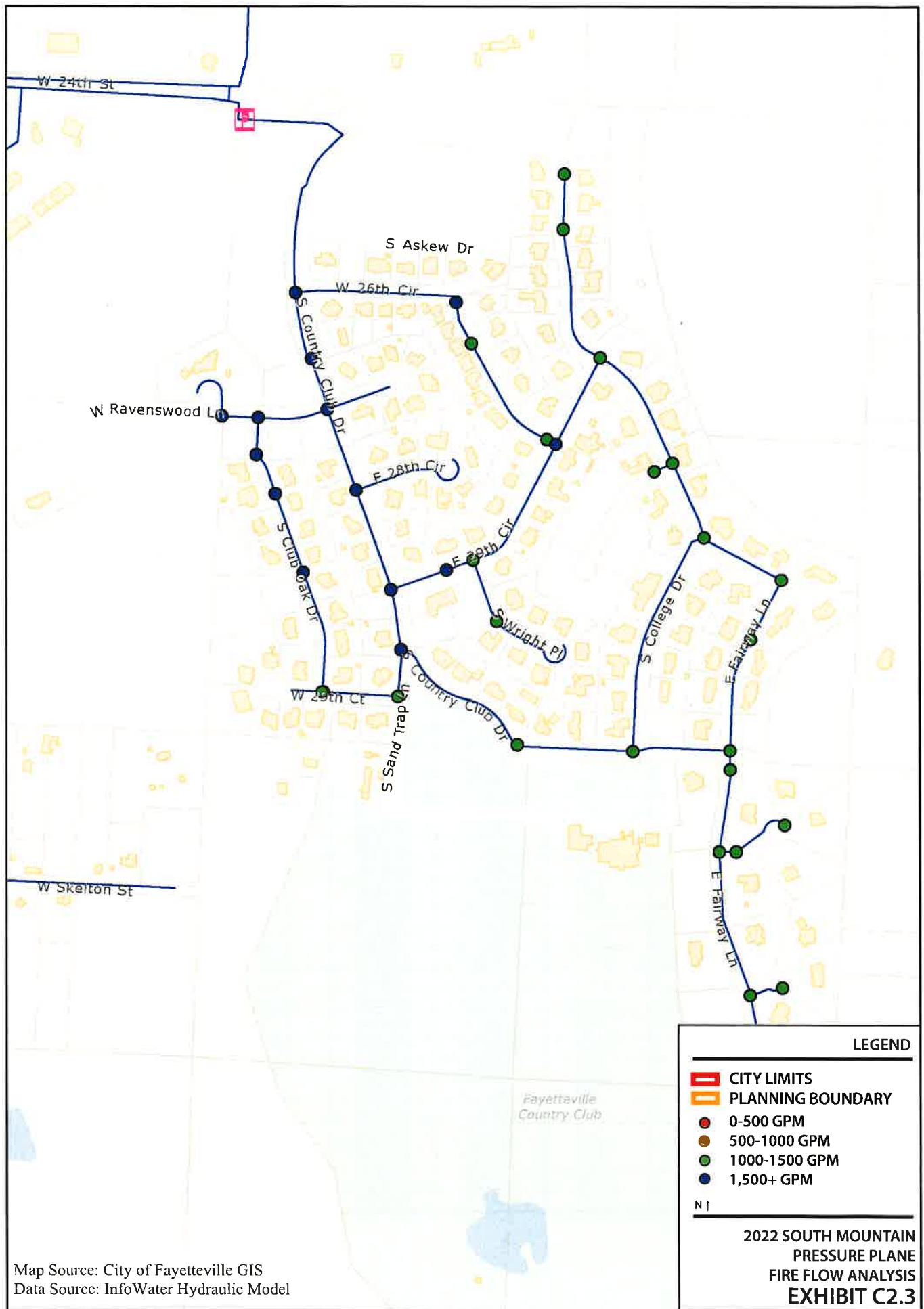


TABLE C2.3**Phase I South Mountain Pressure Plane Fire Flow Results
(2017 - 2022)****Fayetteville Water Master Plan**

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
V106075	1,500	1,194.69	V106075	20.00	1,241.60
F106202	1,500	1,204.68	F106202	20.00	1,263.81
F100545	1,500	1,227.38	F100545	20.00	1,288.91
F100542	1,500	1,230.30	F100542	20.00	1,289.24
FH10465	1,500	1,247.80	FH10465	20.00	1,297.91
F100544	1,500	1,249.19	F100544	20.00	1,308.18
FH10468	1,500	1,254.37	F100544	18.58	1,304.64
F100543	1,500	1,268.90	F106202	19.12	1,326.35
F106024	1,500	1,275.04	F100544	15.17	1,305.41
F108614	1,500	1,280.61	F100544	14.11	1,304.71
F108596	1,500	1,281.54	F100544	14.07	1,305.41
F108597	1,500	1,284.44	F100544	13.54	1,305.17
F108615	1,500	1,291.49	F100544	12.26	1,304.71
F105313	1,500	1,298.99	F105313	20.00	1,356.90
F100520	1,500	1,311.18	F100544	9.54	1,308.48
F113395	1,500	1,322.98	F100545	15.12	1,356.68
F100541	1,500	1,332.76	F106202	14.53	1,362.34
F107964	1,500	1,339.55	F105311	14.43	1,366.80
F102485	1,500	1,456.13	F106202	5.55	1,425.43
F107965	1,500	1,490.68	F105311	9.96	1,490.39
FH10460	1,500	1,496.33	F106202	8.85	1,487.79
F116098	1,500	1,496.99	F106202	14.88	1,534.95
FH10409	1,500	1,498.03	F100545	12.12	1,514.45
F107971	1,500	1,498.31	F100545	10.98	1,505.85
F107968	1,500	1,499.61	F100545	12.20	1,516.64
F100546	1,500	1,501.44	F106202	8.12	1,487.56
F100504	1,500	1,509.67	F100545	13.98	1,541.29
F113397	1,500	1,512.93	F100545	9.01	1,505.32
FH10410	1,500	1,519.57	F106202	13.09	1,543.93
F100502	1,500	1,522.22	F100545	11.27	1,532.21
F106025	1,500	1,541.55	F100545	9.33	1,536.30
F100507	1,500	1,566.26	F100545	0.61	1,495.74
F103503	1,500	1,569.24	F100545	5.93	1,537.21
F100506	1,500	1,601.04	F100545	-2.32	1,507.56
F100503	1,500	1,607.97	F100545	1.28	1,539.44
F100505	1,500	1,644.42	F100545	-4.82	1,529.92
F102482	1,500	1,719.94	F100545	-12.35	1,545.14
F103488	1,500	1,778.38	F100545	-16.61	1,566.58
F100377	1,500	1,810.35	F100545	-14.94	1,604.60

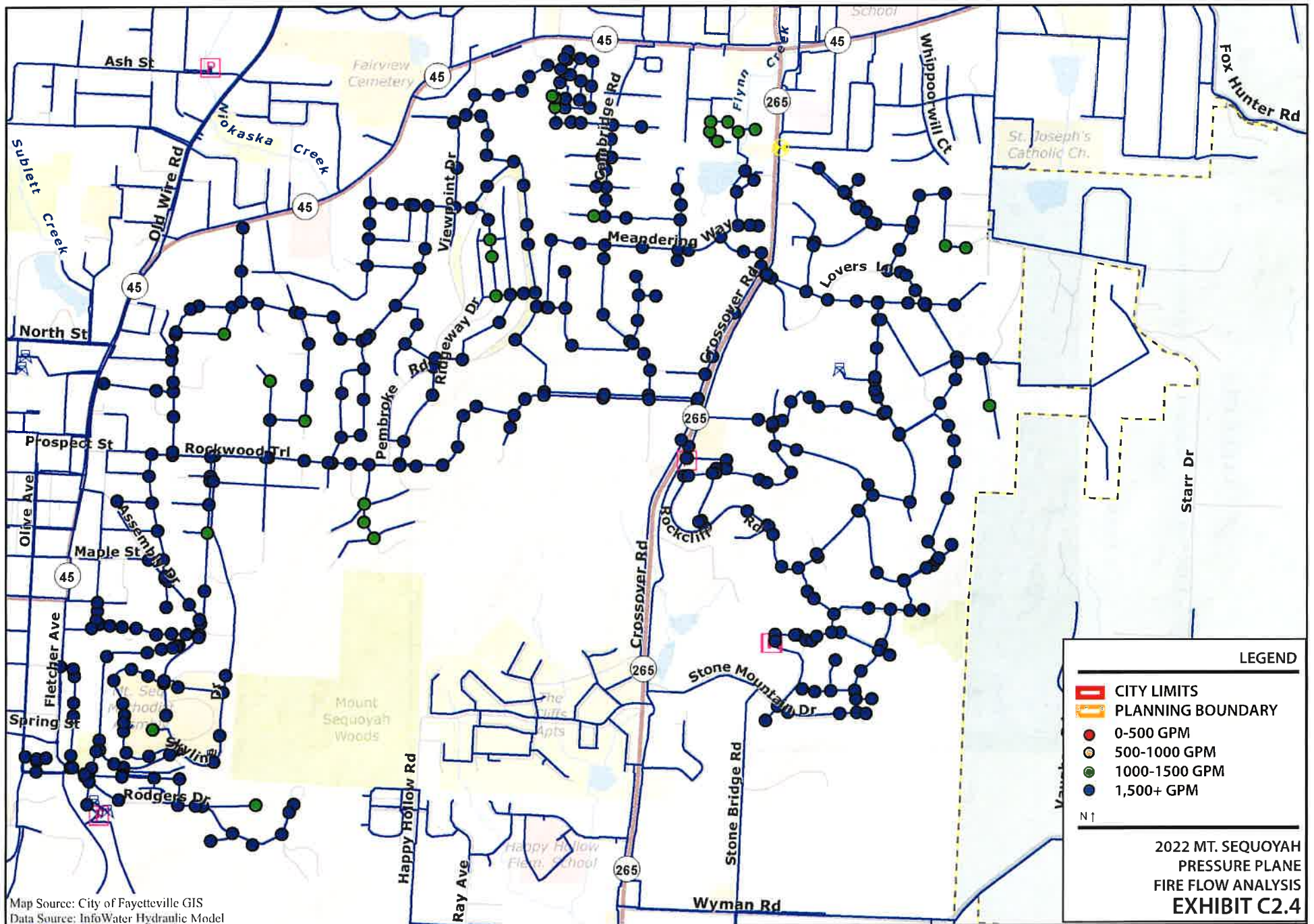
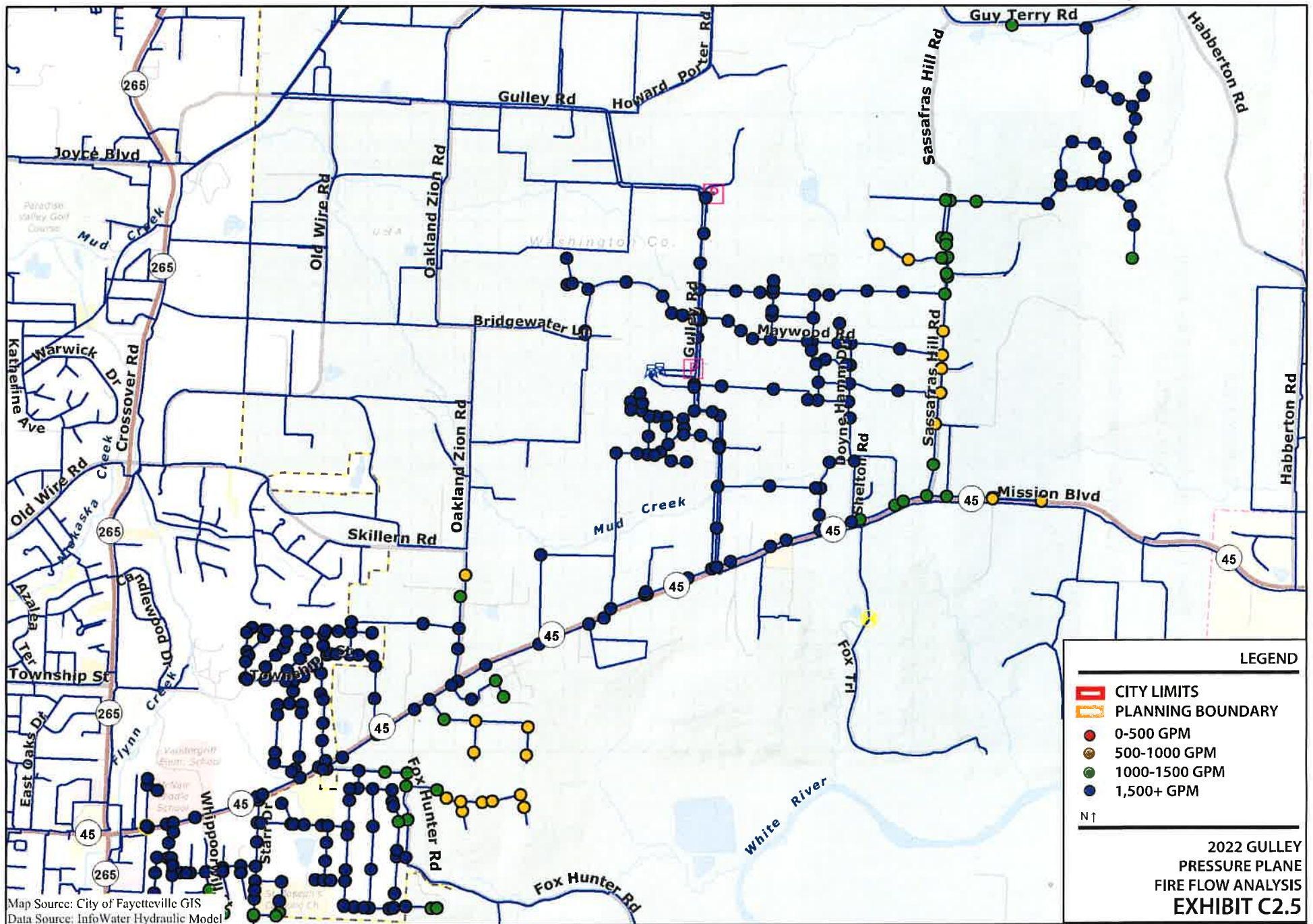


TABLE C2.4

**Phase I Mt. Sequoyah Pressure Plane Fire Flow Results
(2017 - 2022)**

Fayetteville Water Master Plan

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F108266	1,500	1,100.80	F108266	20.00	1,226.65
F105561	1,500	1,165.06	F105561	20.00	1,383.07
F102952	1,500	1,245.64	F102952	20.00	1,289.71
F106332	1,500	1,282.61	F106332	20.00	1,329.22
F113296	1,500	1,304.80	F113297	20.00	1,426.10
F110486	1,500	1,312.80	F110486	20.00	1,360.94
J2092	1,500	1,314.36	J2092	20.00	1,499.31
F104458	1,500	1,323.94	F104458	20.00	1,420.75
J1584	1,500	1,327.27	J1584	20.00	1,380.77
F101751	1,500	1,339.30	F101751	20.00	1,600.45
F102570	1,500	1,351.33	F114411	12.75	1,373.28
FH02377	1,500	1,366.13	FH02377	20.00	1,427.14
F111800	1,500	1,368.87	F111800	20.00	1,456.14
F107311	1,500	1,405.73	F107311	20.00	1,454.97
F104971	1,500	1,406.67	F110486	14.80	1,432.22
F114413	1,500	1,408.37	F114413	20.00	1,583.89
F106328	1,500	1,432.20	V102658	0.30	1,362.19
F118549	1,500	1,460.71	F118549	20.00	1,559.52
F113971	1,500	1,481.99	F113971	20.00	1,578.41
F112375	1,500	1,487.01	F112375	20.00	1,619.48
F118515	1,500	1,489.42	F118549	17.92	1,567.57
F101677	1,500	1,491.42	J2092	17.29	1,637.11
F102360	1,500	1,492.02	F110486	12.02	1,502.63
F118513	1,500	1,492.13	F118549	19.55	1,588.07
F102569	1,500	1,493.31	J2092	16.65	1,625.21



LEGEND

- CITY LIMITS
- PLANNING BOUNDARY
- 0-500 GPM
- 500-1000 GPM
- 1000-1500 GPM
- 1,500+ GPM

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**2022 GULEY
 PRESSURE PLANE
 FIRE FLOW ANALYSIS
 EXHIBIT C2.5**

TABLE C2.5**Phase I Gully Pressure Plane Fire Flow Results
(2017 - 2022)****Fayetteville Water Master Plan**

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F100231	1,500	645.29	F100231	20.00	716.90
F102929	1,500	649.26	F102929	20.00	717.82
FH11892	1,500	654.19	FH11892	20.00	767.94
F102175	1,500	664.18	FH11892	19.47	771.48
F102928	1,500	668.12	J1612	18.73	733.39
F104866	1,500	670.47	F104866	20.00	742.57
F103172	1,500	705.49	F103172	20.00	797.11
F102644	1,500	708.80	F102644	20.00	800.37
F100198	1,500	708.80	F103172	20.00	801.07
F114911	1,500	767.78	J1612	16.66	822.55
F102173	1,500	777.31	F102173	20.00	921.20
FH11886	1,500	793.54	FH11886	20.00	884.06
F114247	1,500	811.87	F104866	12.65	832.26
F107299	1,500	824.65	F107299	20.00	921.31
J2962	1,500	852.71	J2962	20.00	1,046.79
FH11885	1,500	853.93	F104866	11.98	869.71
F116352	1,500	867.83	F116352	20.00	1,087.26
F112304	1,500	894.12	F112304	20.00	1,071.60
F112213	1,500	917.44	F112213	20.00	1,078.99
F113278	1,500	922.14	F107299	18.44	1,009.89
F100203	1,500	949.02	F100203	20.00	1,107.89
F115246	1,500	967.65	F115246	20.00	1,077.89
F114454	1,500	975.75	F114454	20.00	1,077.12
F112214	1,500	991.04	F112214	20.00	1,064.08
FH10400	1,500	993.19	F112214	20.00	1,066.61
FH11884	1,500	1,030.25	F107299	16.55	1,103.26
FH10401	1,500	1,031.97	F114110	15.46	1,165.66
F100375	1,500	1,068.05	F114110	14.07	1,166.70
J1016898A	1,500	1,074.95	F114110	16.03	1,232.20
F100204	1,500	1,096.60	F103172	8.22	1,071.43
F103182	1,500	1,108.89	F103182	20.00	1,235.26
F116867	1,500	1,129.11	F114110	13.27	1,210.48
F112110	1,500	1,168.65	F114110	7.44	1,110.14
F102673	1,500	1,174.52	F114110	12.47	1,235.18
J3256	1,500	1,176.45	F114110	12.27	1,232.12
F112302	1,500	1,178.29	F114110	12.21	1,232.41
F115113	1,500	1,178.92	F100351	13.91	1,245.20
F109596	1,500	1,181.13	F114110	12.25	1,236.14
FH11168	1,500	1,184.20	F101647	18.14	1,295.87
J3260	1,500	1,186.52	F114110	12.57	1,251.92

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F107313	1,500	1,187.68	F107313	20.00	1,357.60
F112303	1,500	1,196.50	F114110	11.48	1,232.41
F104865	1,500	1,202.37	F102173	14.06	1,269.38
F101650	1,500	1,218.48	F101647	14.77	1,281.88
F112369	1,500	1,228.78	F114110	13.07	1,311.31
F106124	1,500	1,249.85	F101647	13.49	1,296.72
F108590	1,500	1,266.38	F101647	16.69	1,362.03
F114303	1,500	1,272.20	J1598	16.25	1,383.42
J3262	1,500	1,302.58	F114110	9.00	1,274.62
FH02778	1,500	1,334.11	F114110	5.81	1,232.12
J1608	1,500	1,364.02	J1608	20.00	1,515.71
F100352	1,500	1,379.88	F103172	13.41	1,435.53
F100202	1,500	1,382.57	F103172	3.41	1,285.68
F100201	1,500	1,388.31	F103172	16.74	1,506.43
F109570	1,500	1,397.72	F114110	3.17	1,232.53
FH11167	1,500	1,416.01	F101647	14.91	1,492.13
J1606	1,500	1,425.69	J1606	20.00	1,590.42
F112746	1,500	1,429.42	F101647	14.61	1,501.06
F114244	1,500	1,441.68	F114244	20.00	1,563.44
F100205	1,500	1,452.19	F100205	20.00	1,656.22
F114245	1,500	1,454.37	F114245	20.00	1,588.08
FH12090	1,500	1,455.39	FH12090	20.00	1,605.33
FH02968	1,500	1,456.28	FH02968	20.00	1,568.53
F112747	1,500	1,456.58	F101647	12.78	1,499.42
F102388	1,500	1,463.80	F107299	16.08	1,547.06
F112749	1,500	1,466.34	F101647	12.15	1,499.42
FH12066	1,500	1,466.41	J1598	9.43	1,456.07
F102407	1,500	1,480.03	F107299	9.29	1,470.87
F114304	1,500	1,482.06	J1598	9.00	1,463.97
F109159	1,500	1,493.32	FH02968	18.93	1,594.74

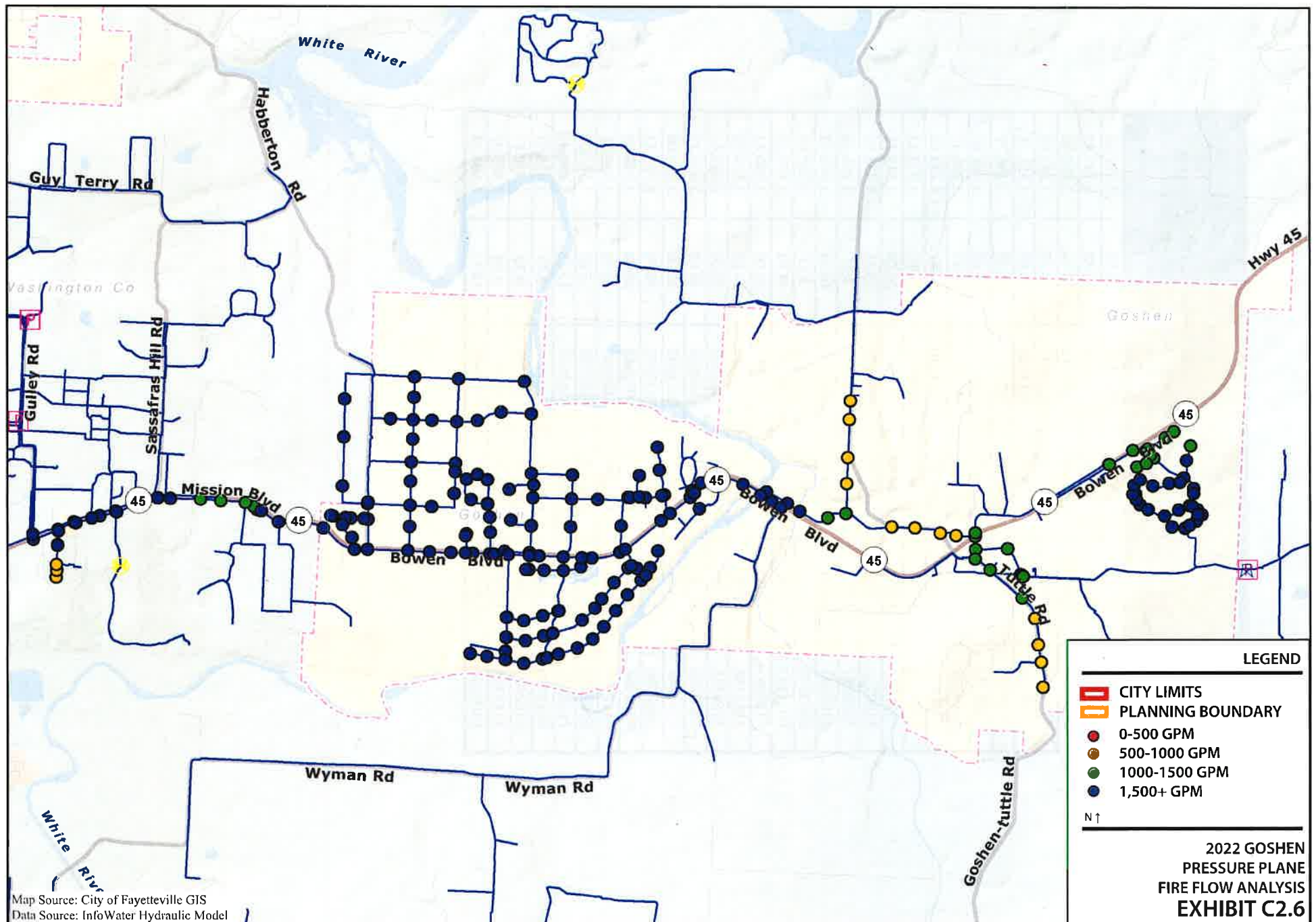


TABLE C2.6

**Phase I Goshen Pressure Plane Fire Flow Results
(2017 - 2022)**

Fayetteville Water Master Plan

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
FH02787	1,500	522.70	J956	13.20	946.27
FH03468	1,500	616.79	F112076	-48.39	412.66
J1726	1,500	639.16	J956	13.20	946.34
F114165	1,505	673.50	F112076	-54.36	439.35
V100450	1,509	712.02	J956	13.20	1,010.71
F105411	1,500	732.10	F105412	10.85	723.07
F114135	1,501	747.80	F112076	-9.88	629.63
F100885	1,500	762.04	F105412	2.17	723.23
F114159	1,500	780.35	F114149	9.63	750.20
F115097	1,500	793.61	F112076	-18.31	629.24
F114164	1,500	799.20	F112076	-66.38	491.41
F114136	1,500	827.30	F112076	-24.72	629.05
F114162	1,500	839.65	F114149	8.68	750.20
F114163	1,500	890.41	F112076	-67.53	543.98
F114137	1,500	954.98	F112076	-50.41	629.36
F100873	1,501	1,010.11	F114149	5.77	751.12
F115006	1,500	1,110.55	F114149	3.84	750.11
F100866	1,500	1,110.59	F114149	3.84	750.00
F103829	1,500	1,121.19	F114149	3.62	750.00
F114141	1,500	1,144.91	F114149	3.13	750.33
F100878	1,501	1,155.20	F114149	2.92	750.44
F100897	1,500	1,168.90	F114149	2.63	750.00
F109099	1,500	1,176.69	F114149	2.45	750.40
F100874	1,501	1,179.66	F114149	2.41	750.64
F100871	1,500	1,192.52	F114149	2.14	750.00
F100876	1,500	1,197.86	F114149	2.02	750.00
F100877	1,500	1,200.45	F114149	1.96	750.07
F109098	1,500	1,202.03	F114149	1.90	750.00
FH02849	1,500	1,207.14	F114149	1.82	749.92
F110507	1,500	1,226.61	F112076	-113.83	629.05
F110500	1,501	1,259.76	F114149	0.68	751.10
FH02947	1,500	1,262.63	F114149	0.59	749.92
F107398	1,500	1,312.71	J956	13.20	1,555.86
F109093	1,500	1,339.54	F114149	-1.15	750.18
FH02948	1,500	1,340.80	F114149	-1.19	749.92
F109104	1,500	1,350.43	F114149	-1.41	750.00
F109096	1,500	1,361.59	F114149	-1.67	750.00
F109112	1,501	1,384.45	F114149	-2.18	751.26
F109106	1,501	1,399.77	F114149	-2.56	750.72
F114130	1,500	1,403.61	F112076	-115.45	712.50
F109101	1,500	1,431.66	F114149	-3.35	750.00
F100199	1,500	1,437.44	J956	13.20	---
FH10182	1,500	1,445.02	J956	13.20	---
F103170	1,500	1,469.99	J956	13.20	1,555.69
F103169	1,500	1,489.95	F114233	12.45	1,549.89
F100834	1,500	1,496.31	F112076	-7.11	1,268.16
FH02950	1,500	1,499.53	F114149	-5.05	749.92

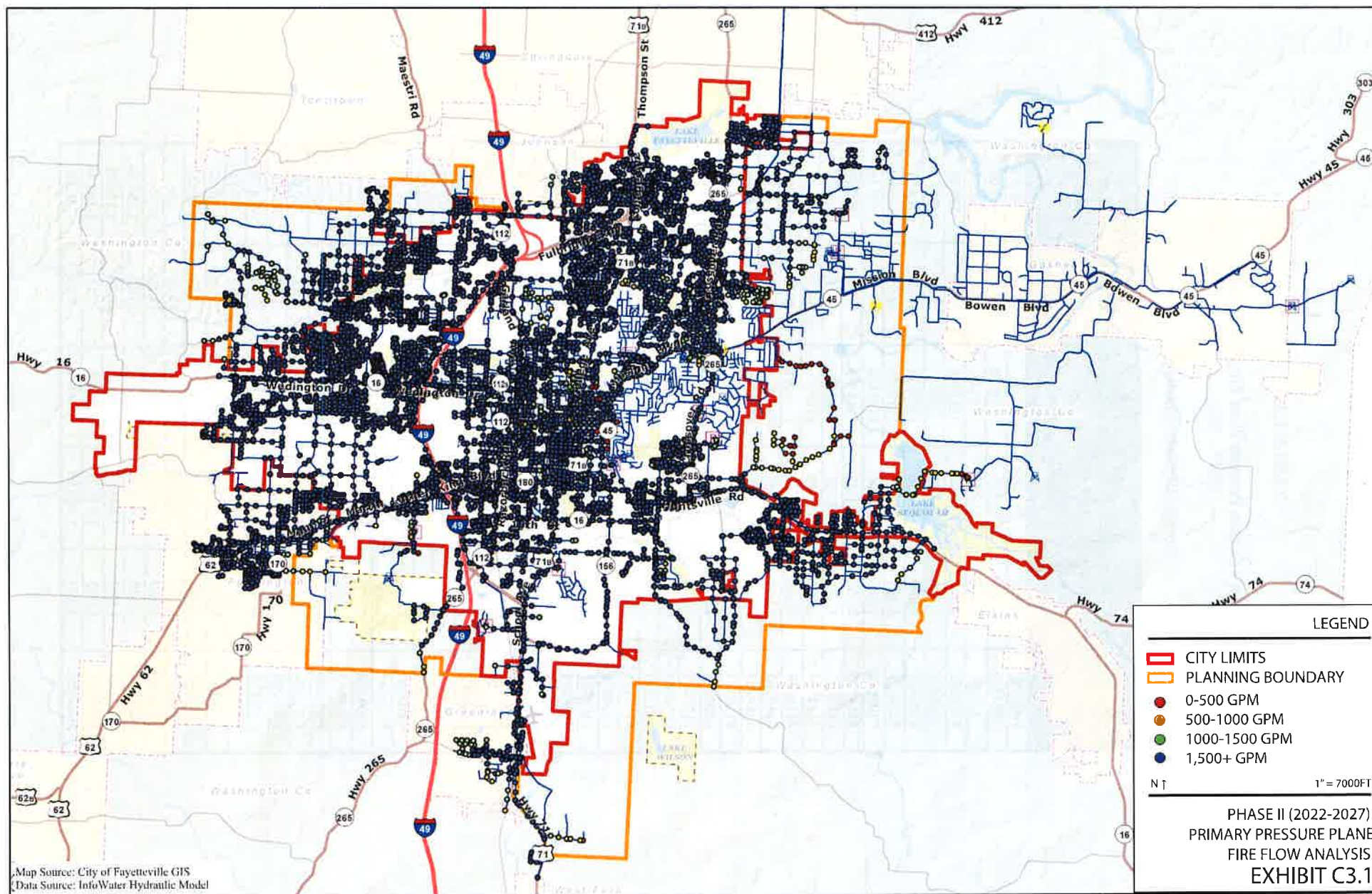


TABLE C3.1

**Phase II Primary Pressure Plane Fire Flow Results
(2022 - 2027)**

Fayetteville Water Master Plan

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F112151	1,500	0.79	F116411	12.66	600.48
F117382	1,500	0.91	F117382	15.86	2,482.33
F105909	1,500	1.26	F105909	15.92	641.54
F107071	1,500	1.30	F107071	15.80	3,106.94
F116411	1,500	1.75	J2258	6.78	485.26
F111751	1,500	2.27	F111751	11.34	4,128.99
F101489	1,500	70.59	F101489	20.00	63.29
F100432	1,500	109.70	F100432	20.00	114.78
J2130	1,500	154.68	J2130	20.00	162.77
J2008	1,500	192.08	J2008	20.00	216.53
F114984	1,500	197.06	F114557	14.19	200.24
F115205	1,500	233.44	J2008	3.94	219.39
F114243	1,500	288.27	J2008	-20.10	221.83
F114459	1,500	320.70	F114459	20.00	365.84
F102172	1,500	348.97	J2008	-47.02	228.57
F116398	1,500	357.82	F114459	13.07	371.00
F115207	1,500	367.57	J2008	-57.24	227.39
F111727	1,500	380.05	F111727	20.00	3,300.18
F104061	1,500	381.15	F114459	6.27	365.02
F115208	1,500	384.00	J2008	-62.69	232.01
V103375	1,500	392.80	J2008	-65.27	233.54
F104062	1,500	401.60	F114459	8.39	393.94
F102174	1,500	403.45	J2008	-66.06	238.68
F103858	1,500	404.00	F105427	12.58	412.38
F114228	1,500	405.22	J2008	-66.65	239.06
F114227	1,500	406.54	J2008	-67.53	238.88
F100904	1,500	407.45	F105427	11.95	413.76
FH03420	1,500	407.77	J2008	-67.98	239.07
F102119	1,500	408.58	J2008	-68.34	239.20
F102919	1,500	410.11	J2008	-69.13	239.24
F105981	1,500	411.98	F105981	20.00	710.73
F100837	1,500	427.26	F105427	5.38	412.58
F104802	1,500	434.85	J2008	-53.19	275.03
F105497	1,500	436.71	F114459	-2.18	383.54
F115209	1,500	442.27	J2008	-68.00	259.98
F104063	1,500	445.43	F114459	-2.53	389.51
F114242	1,500	462.88	J2008	-71.60	287.42
F104801	1,500	466.56	J2008	-62.89	281.82
F101456	1,500	478.14	F105427	-8.56	420.31
F101534	1,500	479.19	F105576	6.61	452.93
F102990	1,500	481.15	J2008	-47.94	313.47
F102604	1,500	489.61	J2008	-51.34	313.39
F101179	1,500	495.00	J2008	-51.28	316.91
F116817	1,500	495.12	F113714	16.21	526.97
F101178	1,500	497.90	J2008	-54.78	313.16
F101183	1,500	504.37	F114459	-19.17	383.80
F115769	1,500	505.78	F105576	5.03	466.35
F101182	1,500	508.29	J2008	-20.83	391.43
F104064	1,500	510.55	F114459	-15.38	399.31

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
J2348	1,500	510.93	F105576	6.64	484.88
F116953	1,500	512.42	F116953	20.00	579.09
F114236	1,500	512.66	J2008	-67.74	303.18
F101180	1,500	513.92	J2008	-51.72	328.92
F106048	1,500	528.11	F105427	-22.05	429.37
F105498	1,500	528.24	F114459	-25.97	382.47
F101181	1,500	528.83	J2008	-42.83	355.31
F114460	1,500	539.69	J2008	-38.37	372.16
F101455	1,500	573.87	F105427	-34.53	437.77
F103621	1,500	573.92	F103621	20.00	600.14
J842	1,500	576.12	J842	20.00	751.36
F105494	1,500	581.34	F105494	20.00	774.50
F118150	1,500	581.77	F105427	-35.73	441.35
F101184	1,500	589.44	F114459	-42.71	384.95
F112564	1,500	592.08	F112564	20.00	733.75
F116622	1,500	600.89	F112564	19.44	733.90
V110776	1,500	600.92	F112564	19.44	733.92
F112566	1,500	601.01	F112564	19.44	734.01
F112567	1,500	606.50	F112564	19.08	733.99
F119164	1,500	606.62	F112564	19.08	734.13
F115063	1,500	608.64	F114459	-39.22	404.07
F101185	1,500	609.82	F114459	-48.92	384.65
F113308	1,500	617.16	F105578	-4.81	469.01
F112569	1,500	617.40	F112564	18.53	736.50
F113954	1,500	629.51	F105427	-39.28	469.49
F113376	1,500	631.78	F112564	19.25	767.86
F119212	1,500	634.96	F119212	20.00	698.20
F108965	1,500	637.76	F105427	-34.68	485.67
F101533	1,500	639.84	F105578	-7.36	468.70
F101454	1,500	653.31	F105427	-35.21	496.52
F102740	1,500	661.78	F115178	-33.02	345.75
J944	1,500	662.89	F115178	-33.12	346.27
F101186	1,500	664.76	F114459	-55.05	404.38
F113685	1,500	691.49	F113685	20.00	826.59
F112928	1,500	692.98	F112927	2.20	586.06
F103762	1,500	695.15	F103762	20.00	740.80
J2300	1,500	702.00	J2300	20.00	806.36
F113684	1,500	702.40	F113684	20.00	835.99
V111364	1,500	720.44	V111365	10.62	723.16
F104224	1,500	722.08	F105427	-44.73	524.99
F104068	1,500	742.16	F114459	-62.86	435.75
F101460	1,500	748.08	F105578	-7.95	542.20
F113028	1,500	762.41	F113028	20.00	937.58
V107887	1,500	764.89	V107887	20.00	958.73
F110315	1,500	780.41	F112927	-5.05	586.06
F101187	1,500	786.98	F114459	-66.53	455.16
F113952	1,500	788.30	F105427	-49.52	561.09
F100743	1,500	793.30	F115178	-56.59	347.40
F116524	1,500	813.46	F112927	-7.93	586.37
F105598	1,500	813.48	F114459	2.25	749.36
V108941	1,500	819.49	F112927	-8.50	586.06
F114626	1,500	822.78	F114626	20.00	976.68
F116394	1,500	823.62	F116394	20.00	1,080.94
FH14189	1,500	825.02	FH14189	20.00	1,077.03
F114457	1,500	834.05	F114459	-0.23	750.20
F112511	1,500	848.06	F112511	20.00	963.13

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F101458	1,500	851.31	F105427	-48.07	609.32
V108940	1,500	852.78	F112927	-11.55	586.06
F117861	1,500	859.02	F117861	20.00	902.59
F104069	1,500	859.02	F114459	-68.29	494.73
F115872	1,500	862.87	F117326	17.67	1,039.06
J1616	1,500	867.28	F108674	12.94	918.00
F102785	1,500	878.11	F105282	2.33	827.01
F110728	1,500	879.61	J2258	6.76	918.74
F106926	1,500	889.20	F105282	2.45	838.24
F113867	1,500	891.83	J2258	6.76	927.05
F115860	1,500	893.91	F115860	20.00	937.27
J3028	1,500	894.55	F100244	15.55	944.58
V101475	1,500	899.71	F103762	20.00	959.28
F111916	1,500	904.55	F108674	8.79	885.35
F111915	1,500	908.45	F108674	9.09	893.97
F105719	1,500	908.99	F105719	20.00	1,022.53
F111914	1,500	911.07	F108674	9.09	896.52
F106142	1,500	918.16	F114453	16.12	969.26
F109632	1,500	924.29	F109632	20.00	960.32
F113412	1,500	924.67	F115178	-64.05	384.99
FH11458	1,500	929.72	F105427	-46.33	669.92
V100679	1,500	931.36	V100679	20.00	979.46
F115223	1,500	940.32	F114459	-14.37	750.03
V100678	1,500	941.36	V100678	20.00	998.98
FH14341	1,500	944.08	F108674	9.35	933.14
F101189	1,500	944.13	F114459	-72.19	536.25
F108902	1,500	946.22	F108902	20.00	983.16
F113542	1,500	948.30	F105282	6.31	920.30
F104314	1,500	962.88	F114459	-69.33	554.91
F114834	1,500	963.02	F112927	-4.78	725.47
F102812	1,500	965.91	F105427	-50.10	684.62
F106445	1,500	974.61	F106445	20.00	1,030.21
F112453	1,500	974.88	J2300	11.69	996.26
F113866	1,500	974.96	J2258	6.76	1,022.11
F104580	1,500	982.53	F104580	20.00	1,029.26
J1620	1,500	983.63	F108674	7.75	945.43
F106331	1,500	992.49	F106331	20.00	1,127.68
F102813	1,500	992.93	F105427	-51.73	698.74
F100255	1,500	1,001.69	F100244	9.81	999.39
F112986	1,500	1,007.74	F114012	-2.54	953.70
F114458	1,500	1,019.38	F114459	-25.77	749.43
V102900	1,500	1,023.95	F113700	18.50	1,086.59
F102599	1,500	1,031.57	F102599	20.00	1,153.80
J1628	1,500	1,038.64	F108674	8.56	1,011.72
F100262	1,500	1,056.18	F100262	20.00	1,122.89
F117418	1,500	1,057.51	F117861	15.72	1,087.30
V102777	1,500	1,062.60	F115279	-29.11	728.54
F118218	1,500	1,066.31	F118218	20.00	1,122.81
F115184	1,500	1,068.97	J2258	6.76	1,132.23
F104228	1,500	1,069.74	F105427	-37.29	801.88
F110313	1,500	1,075.63	F110313	20.00	1,129.58
FH11291	1,500	1,076.17	FH11291	20.00	1,146.77
J1528	1,500	1,077.18	F105427	-24.85	859.05
V109028	1,500	1,079.67	V109028	20.00	1,134.06
F110314	1,500	1,079.96	V109028	20.00	1,134.36
V107888	1,500	1,079.99	V107887	9.88	1,077.38

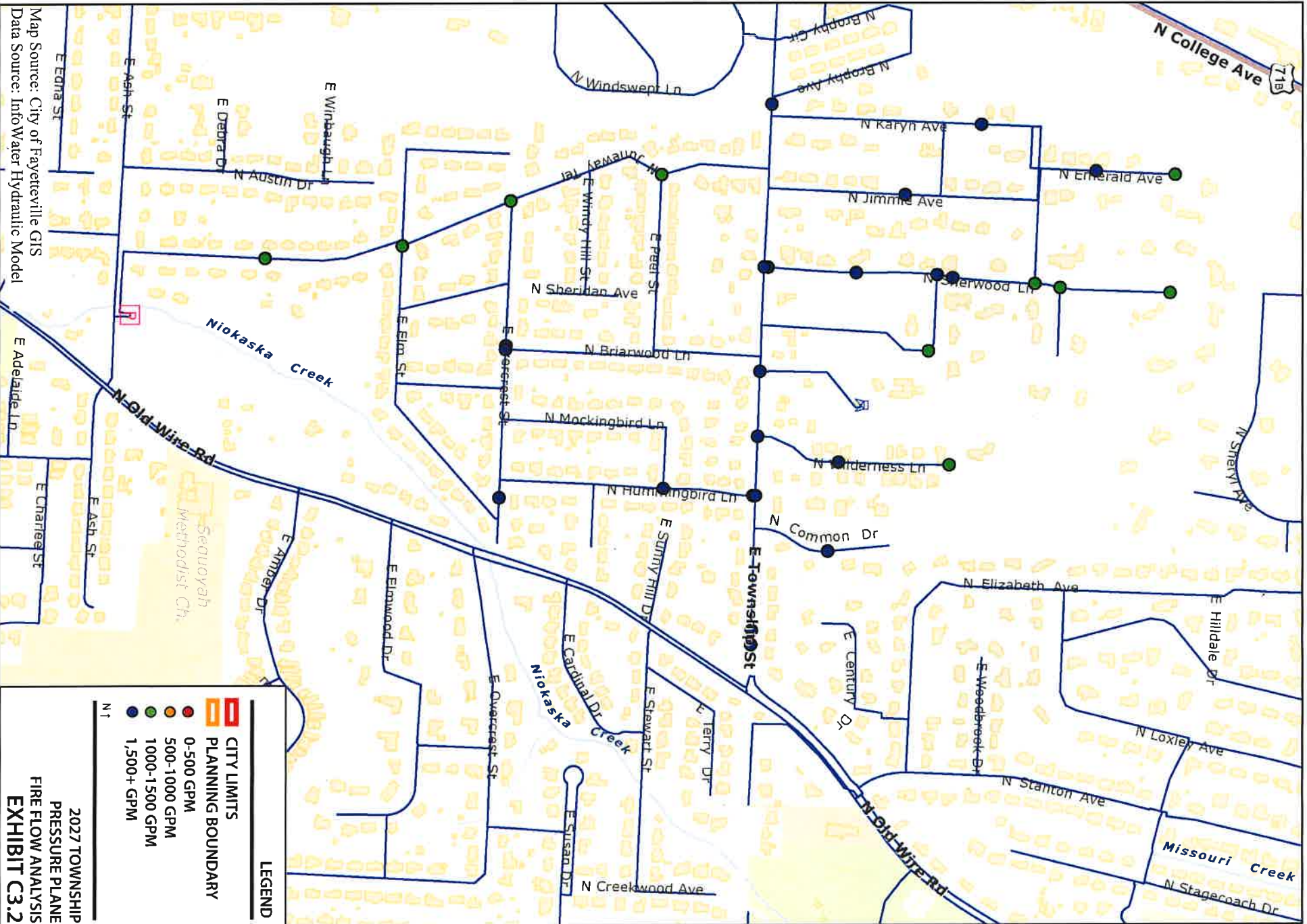
Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F118032	1,500	1,081.97	F118032	20.00	1,136.58
J1526	1,500	1,083.26	F105427	-25.91	859.05
F102716	1,500	1,083.82	F102716	20.00	1,121.02
F113697	1,500	1,084.52	F113697	20.00	1,234.06
F107281	1,500	1,084.86	F105427	-26.19	859.05
V110931	1,500	1,089.34	V110931	20.00	1,125.03
F105718	1,500	1,095.09	F105718	20.00	1,190.18
F116576	1,500	1,095.26	F105578	12.12	1,156.73
FH02342	1,500	1,095.42	F105578	12.08	1,155.73
F102344	1,500	1,099.85	F102344	20.00	1,257.53
F117424	1,500	1,101.22	F117424	20.00	1,153.35
F107828	1,500	1,108.76	F117327	17.61	1,349.97
F109602	1,500	1,110.03	F109602	20.00	1,230.08
F101581	1,500	1,112.64	F114459	-66.63	652.74
F117200	1,500	1,114.00	F117200	20.00	1,171.48
F104579	1,500	1,118.79	F105578	11.31	1,156.54
V101487	1,500	1,125.50	F113478	19.32	1,181.92
F113377	1,500	1,128.71	F112564	-8.07	875.64
F108263	1,500	1,128.72	F113981	16.92	1,332.67
F113359	1,500	1,132.25	F113361	17.84	1,185.60
F115917	1,500	1,135.79	F115917	20.00	1,193.29
F113411	1,500	1,136.33	F115178	-70.27	452.31
V102893	1,500	1,136.50	V102893	20.00	1,213.43
F117862	1,500	1,137.05	F117420	15.35	1,166.21
F105489	1,500	1,138.24	F105489	20.00	1,193.73
F112446	1,500	1,139.10	F105578	10.65	1,157.69
FH11294	1,500	1,143.53	F105578	10.43	1,155.73
F112451	1,500	1,146.53	F105578	10.38	1,157.42
F109605	1,500	1,147.34	F109602	18.71	1,253.32
F107125	1,500	1,149.04	F107125	20.00	1,255.92
F112443	1,500	1,150.00	F105578	10.20	1,155.82
F112450	1,500	1,150.70	F105578	10.18	1,155.82
F108260	1,500	1,152.13	F117327	16.33	1,349.97
F101405	1,500	1,153.09	F101405	20.00	1,359.53
F118055	1,500	1,153.44	F118055	20.00	1,214.99
V107490	1,500	1,156.66	F109602	17.81	1,251.36
V102947	1,500	1,156.93	V102947	20.00	1,230.93
F109604	1,500	1,157.38	F109602	17.84	1,252.49
F112448	1,500	1,158.72	F105578	9.91	1,156.24
FH02344	1,500	1,159.03	F105578	9.88	1,155.73
F107017	1,500	1,160.40	F107017	20.00	1,218.20
FH03753	1,500	1,160.56	FH03753	20.00	1,207.36
FH10579	1,500	1,163.45	F107017	20.00	1,221.54
J94	1,500	1,173.08	J94	20.00	1,466.86
J2072	1,500	1,173.20	J2072	20.00	1,336.04
F115959	1,500	1,174.41	F115959	20.00	1,266.25
F101917	1,500	1,174.81	F117327	15.65	1,349.97
J1824	1,500	1,176.14	F105578	9.35	1,157.58
J2320	1,500	1,177.28	J2320	20.00	1,290.63
F106141	1,500	1,177.45	F114453	4.08	1,122.16
F113686	1,500	1,178.11	F113686	20.00	1,407.77
F104703	1,500	1,181.02	F105578	9.14	1,156.73
F112447	1,500	1,181.39	F105578	9.10	1,155.82
FH10324	1,500	1,181.56	F105278	18.74	1,264.82
F113982	1,500	1,181.82	F113981	15.95	1,349.10
F112243	1,500	1,182.27	F117861	17.47	1,226.41

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
V104455	1,500	1,184.79	F105592	18.91	1,230.83
F104137	1,500	1,187.20	F105427	-24.47	947.75
F117178	1,500	1,189.25	F105578	8.93	1,158.81
J2318	1,500	1,190.93	J2318	20.00	1,293.35
F116556	1,500	1,191.45	F117200	16.95	1,233.26
V106064	1,500	1,194.61	F105282	-5.34	1,065.58
F100245	1,500	1,194.78	F108674	5.26	1,101.51
V102172	1,500	1,197.16	V102172	20.00	1,349.90
F107860	1,500	1,199.16	F107860	20.00	1,243.36
FH12246	1,500	1,200.26	V101008	18.87	1,236.74
F108381	1,500	1,200.94	V101008	18.41	1,235.39
F115180	1,500	1,201.41	F105282	-5.34	1,071.62
F115910	1,500	1,201.70	F117420	19.78	1,259.84
J1822	1,500	1,201.84	F105578	8.40	1,156.78
F107952	1,500	1,202.48	F105282	-5.34	1,072.57
F108379	1,500	1,208.72	F102716	15.53	1,231.26
F106441	1,500	1,215.50	F106441	20.00	1,271.75
F114621	1,500	1,215.82	F114621	20.00	1,398.96
FH14563	1,500	1,215.97	F108674	-2.78	999.12
F116044	1,500	1,216.03	F116044	20.00	1,278.66
F107048	1,500	1,222.89	F107048	20.00	1,307.27
F106693	1,500	1,223.70	F117327	14.13	1,349.97
F101572	1,500	1,224.83	F114459	-58.34	749.36
F103945	1,500	1,225.47	F103945	20.00	1,291.22
F101918	1,500	1,227.16	F117327	14.16	1,354.58
F101714	1,500	1,227.38	F101714	20.00	1,290.00
V100092	1,500	1,229.18	V100092	20.00	1,309.45
FH02345	1,500	1,229.34	F105578	7.37	1,155.73
F115859	1,500	1,234.45	F118218	15.84	1,271.49
F113312	1,500	1,237.05	F105578	-36.91	654.15
F113683	1,500	1,237.97	F113685	19.22	1,457.71
V100193	1,500	1,238.93	V100193	20.00	1,300.40
F108261	1,500	1,243.23	F117327	13.52	1,349.97
F112223	1,500	1,244.77	F112223	20.00	1,301.48
F113928	1,500	1,247.04	F113928	20.00	1,411.82
F118113	1,500	1,247.10	F118113	20.00	2,069.00
F118090	1,500	1,248.46	F118090	20.00	1,312.75
F114625	1,500	1,249.31	F114625	20.00	1,490.51
F109601	1,500	1,250.30	F109602	14.54	1,307.16
F100452	1,500	1,250.69	F108674	-3.44	1,019.21
FH02384	1,500	1,251.29	F105578	6.57	1,155.73
F106694	1,500	1,254.20	F117327	13.17	1,349.97
F104315	1,500	1,255.54	F114459	-52.83	790.95
F103888	1,500	1,258.65	F103888	20.00	1,325.52
F112879	1,500	1,258.85	F118055	16.29	1,299.93
F116552	1,500	1,260.24	F118218	15.06	1,292.85
V103618	1,500	1,267.89	J2258	6.76	1,391.36
J1570	1,500	1,268.98	FH03753	18.79	1,313.75
F105438	1,500	1,270.19	F105438	20.00	1,317.50
F106134	1,500	1,270.26	J2320	19.16	1,381.30
J58	1,500	1,273.61	F118055	14.43	1,302.41
J1624	1,500	1,281.35	F108674	-5.94	1,011.72
F101399	1,500	1,281.92	F101399	20.00	1,482.27
FH03916	1,500	1,282.83	FH03916	20.00	1,418.94
F100763	1,500	1,288.33	F113471	-6.64	1,161.70
F115861	1,500	1,290.66	F118090	19.66	1,354.70

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F115271	1,500	1,291.79	F115271	20.00	1,345.97
F108264	1,500	1,294.18	F108264	20.00	1,606.40
F100286	1,500	1,294.65	F107125	17.61	1,383.86
F102687	1,500	1,296.80	J2318	17.88	1,382.59
F102901	1,500	1,297.47	F102901	20.00	1,651.45
F101397	1,500	1,301.66	F114625	19.71	1,544.10
F109923	1,500	1,302.04	F109923	20.00	1,976.02
F113320	1,500	1,305.92	F105578	4.54	1,156.19
F101400	1,500	1,305.95	F101400	20.00	1,511.91
F113329	1,500	1,306.82	F105578	4.50	1,155.96
F113497	1,500	1,312.01	F113497	20.00	1,380.68
F115889	1,500	1,315.82	F105578	4.39	1,162.02
F100246	1,500	1,317.24	F108674	-1.73	1,097.12
F102648	1,500	1,322.38	F115092	5.50	1,263.11
FH10278	1,500	1,323.27	F115092	5.88	1,268.65
F100257	1,500	1,323.50	F115092	5.50	1,264.17
F117346	1,500	1,324.59	F118113	19.20	2,078.73
V108021	1,500	1,325.97	V108021	20.00	1,415.34
F107459	1,500	1,328.04	F107459	20.00	1,391.64
V101257	1,500	1,328.85	F115178	-5.09	934.32
J1626	1,500	1,332.65	F108674	-8.27	1,023.45
F113331	1,500	1,332.96	F105578	3.52	1,156.40
F103190	1,500	1,338.60	F115092	6.10	1,286.16
F112822	1,500	1,338.67	F112822	20.00	1,540.50
F105723	1,500	1,339.30	V103604	17.47	1,589.77
F109922	1,500	1,339.89	F109923	19.97	2,028.10
F100761	1,500	1,340.02	F105389	15.03	1,372.54
F102745	1,500	1,341.38	F103762	20.00	1,431.35
F100758	1,500	1,343.66	F103762	20.00	1,433.87
V110933	1,500	1,345.88	V110933	20.00	1,410.37
V106502	1,500	1,355.32	V106502	20.00	1,419.33
F117207	1,500	1,355.40	F117207	20.00	1,425.55
F106144	1,500	1,357.53	F106144	20.00	1,438.39
F108013	1,500	1,360.05	F100262	15.89	1,409.67
F116554	1,500	1,361.58	F118219	15.75	1,402.01
F105273	1,500	1,362.57	F105273	20.00	1,429.75
F101818	1,500	1,364.05	F114431	18.33	1,497.74
F105991	1,500	1,364.44	F105578	2.29	1,156.11
F109793	1,500	1,366.88	F105578	2.22	1,156.55
F107476	1,500	1,367.54	F107476	20.00	1,442.24
F108254	1,500	1,367.71	F117327	8.94	1,337.21
F104994	1,500	1,367.72	F104994	20.00	1,593.36
V105664	1,500	1,368.28	V105664	20.00	1,442.73
F110528	1,500	1,369.83	FH03916	15.20	1,440.19
F109598	1,500	1,369.88	F109602	9.88	1,368.36
F113894	1,500	1,370.09	F113894	20.00	1,427.62
J460	1,500	1,370.74	FH03916	15.41	1,444.24
F113979	1,500	1,371.12	F117327	11.42	1,415.18
F101916	1,500	1,372.89	F117327	11.05	1,405.20
F106698	1,500	1,375.09	F117327	11.29	1,415.18
F108511	1,500	1,380.62	F117327	10.12	1,384.26
F108257	1,500	1,382.54	F117327	8.31	1,334.25
F115091	1,500	1,382.69	F117327	11.05	1,415.18
V109271	1,500	1,383.54	FH03916	15.18	1,454.32
F106132	1,500	1,384.92	F107125	12.34	1,412.39
F103351	1,500	1,387.28	F115178	3.11	1,143.27

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
V107750	1,500	1,387.97	V108021	17.95	1,460.50
F105564	1,500	1,391.39	F105564	20.00	1,517.84
F100083	1,500	1,394.30	F114012	16.22	1,436.65
F116584	1,500	1,396.47	F116584	20.00	1,467.44
F118237	1,500	1,397.68	F118237	20.00	1,489.95
F114032	1,500	1,399.71	F114032	20.00	1,451.89
F117882	1,500	1,401.13	F117882	20.00	1,621.85
V100510	1,500	1,401.50	V100510	20.00	1,491.25
F103397	1,500	1,401.84	J2320	12.32	1,430.30
V100388	1,500	1,402.37	V100388	20.00	1,472.07
F107676	1,500	1,402.43	F107676	20.00	1,568.94
J354	1,500	1,403.73	V108021	18.40	1,482.03
V107746	1,500	1,406.31	V108021	16.08	1,462.03
F118021	1,500	1,406.46	F118113	19.09	2,183.11
F107884	1,500	1,406.78	V100388	19.69	1,474.57
V107748	1,500	1,407.95	V108021	15.99	1,462.84
F104698	1,500	1,408.13	F105578	0.56	1,155.82
F113543	1,500	1,410.21	F105282	-11.90	1,207.68
F117416	1,500	1,412.62	F117416	20.00	1,597.64
F110529	1,500	1,412.89	FH03916	12.69	1,449.16
V105137	1,500	1,414.97	V105137	20.00	1,493.42
F106980	1,500	1,415.27	F106980	20.00	1,493.73
F110400	1,500	1,415.57	F110400	20.00	1,640.55
V101280	1,500	1,416.06	F115178	5.71	1,245.56
F116919	1,500	1,417.05	F116919	20.00	1,491.19
F113410	1,500	1,418.55	F115178	-73.68	548.19
F114988	1,500	1,422.48	F114988	20.00	1,520.65
F102600	1,500	1,425.01	V103604	15.03	1,589.55
F114293	1,500	1,425.30	F108674	3.36	1,273.61
F106436	1,500	1,426.01	F115178	8.61	1,362.81
J346	1,500	1,427.04	V108021	18.15	1,504.27
J348	1,500	1,429.39	V108021	17.99	1,504.95
F107367	1,500	1,429.70	F107367	20.00	1,637.32
FH03157	1,500	1,430.10	FH03157	20.00	1,502.17
F118006	1,500	1,430.18	F118006	20.00	1,504.74
FH03751	1,500	1,430.57	F113921	5.89	1,247.88
V110553	1,500	1,431.87	V110553	20.00	1,501.29
F105221	1,500	1,432.26	F105221	20.00	1,529.64
F105706	1,500	1,435.03	F105706	20.00	1,498.04
J1922	1,500	1,438.05	F110400	19.62	1,653.90
F102768	1,500	1,438.76	V101654	15.02	1,468.15
F106330	1,500	1,439.28	V103604	14.60	1,589.09
F101768	1,500	1,439.57	F116411	0.93	629.07
FH03153	1,500	1,439.65	FH03153	20.00	1,511.81
V107742	1,500	1,439.90	V108021	16.53	1,501.46
F106913	1,500	1,443.46	F113497	17.76	1,501.12
F118105	1,500	1,444.69	V108021	16.93	1,510.28
F100283	1,500	1,446.04	F114453	3.59	1,372.66
F118169	1,500	1,446.51	V108021	16.01	1,503.10
F102312	1,500	1,447.66	F114851	7.88	1,418.76
F101398	1,500	1,447.70	F113686	18.60	1,681.49
F112252	1,500	1,447.96	F112252	20.00	1,529.64
V106501	1,500	1,448.97	V106501	20.00	1,517.76
V108020	1,500	1,451.13	F116919	18.38	1,513.96
F106143	1,500	1,453.83	F106143	20.00	1,552.50
F110530	1,500	1,454.37	FH03916	9.78	1,451.33

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F114291	1,500	1,454.83	F108674	-7.83	1,122.41
F113869	1,500	1,455.25	J2258	6.75	1,463.24
J1074	1,500	1,455.50	J1074	20.00	1,527.73
F103193	1,500	1,456.44	F100262	16.64	1,517.22
J1924	1,500	1,459.40	F110400	18.17	1,640.46
F115320	1,500	1,460.89	V100388	19.27	1,527.88
F100430	1,500	1,461.93	V100388	19.13	1,527.88
F106385	1,500	1,462.18	F106385	20.00	1,546.57
FH10604	1,500	1,464.79	F115178	-11.09	933.37
F113188	1,500	1,465.33	F113188	20.00	1,550.98
F100755	1,500	1,466.70	F113476	13.43	1,507.59
F102649	1,500	1,468.33	F102649	20.00	1,561.15
FH10789	1,500	1,469.51	FH10789	20.00	1,536.70
F114321	1,500	1,471.65	F109602	7.01	1,431.85
F107457	1,500	1,472.28	F107457	20.00	1,543.37
F112221	1,500	1,472.39	F118219	17.98	1,534.47
F102650	1,500	1,472.97	F100262	15.40	1,522.38
F100261	1,500	1,473.66	F100262	15.32	1,522.38
F104569	1,500	1,474.60	F104569	20.00	1,742.31
F102484	1,500	1,474.90	F102484	20.00	1,547.08
F110531	1,500	1,475.79	FH03916	8.39	1,454.32
FH10443	1,500	1,477.69	F115178	7.44	1,362.72
F100414	1,500	1,478.18	F115178	7.45	1,363.81
FH10449	1,500	1,478.94	F115178	0.28	1,141.63
J1070	1,500	1,478.99	FH03157	19.14	1,547.38
FH03756	1,500	1,479.03	FH03756	20.00	1,538.98
F108375	1,500	1,484.90	F108375	20.00	1,550.51
F103195	1,500	1,485.52	F103195	20.00	1,588.39
F112984	1,500	1,486.39	F112984	20.00	1,572.07
J1422	1,500	1,487.54	J1422	20.00	1,602.36
F107131	1,500	1,489.67	F102344	16.13	1,610.91
F102340	1,500	1,495.21	F102340	20.00	1,694.57
F100285	1,500	1,496.31	J2320	9.82	1,493.98



Map Source: City of Fayetteville GIS
Data Source: Info Water Hydraulic Model

2027 TOWNSHIP
PRESSURE PLANE
FIRE FLOW ANALYSIS
EXHIBIT C3.2

TABLE C3.2

**Phase II Township Pressure Plane Fire Flow Results
(2022 - 2027)**

Fayetteville Water Master Plan

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F108209	1,500	1,052.83	F108210	19.51	1,116.17
F112924	1,500	1,167.53	F112924	20.00	1,393.04
F106404	1,500	1,207.05	F106404	20.00	1,317.27
V106209	1,500	1,283.92	F114817	-4.28	1,133.31
F106407	1,500	1,304.51	F106407	20.00	1,617.90
F102290	1,500	1,376.55	F104945	19.18	1,573.64
F100093	1,500	1,385.95	F112924	19.90	1,629.51
J3280	1,500	1,405.64	J3280	20.00	1,672.49
F108212	1,500	1,425.59	F114817	17.29	1,538.53
V108165	1,500	1,452.00	V108165	20.00	1,665.58
F115015	1,500	1,514.52	F106407	17.06	1,739.83
F107715	1,500	1,593.25	F106404	16.62	1,678.06
F106402	1,500	1,596.97	F106402	20.00	1,714.78
FH02198	1,500	1,663.61	F106407	12.49	1,727.46
F106406	1,500	1,731.19	F106407	13.06	1,818.40
FH11961	1,500	1,756.96	F114817	9.83	1,752.59
F102287	1,500	1,778.92	F114817	9.02	1,760.63
V100262	1,500	1,782.49	F106407	13.90	1,919.99
FH11960	1,500	1,905.88	F114817	14.06	1,982.70
J790	1,500	1,932.62	V108165	13.07	2,007.92
F110614	1,500	2,045.09	F106407	7.60	1,939.32
F102310	1,500	2,097.46	F104944	18.42	2,238.22
F112327	1,500	2,102.09	F106407	6.58	1,961.42
FH10097	1,500	2,157.70	J3280	-1.19	1,845.99
FH03942	1,500	2,237.53	FH03942	20.00	2,390.47
J2114	1,500	2,258.73	FH03942	19.00	2,391.36
F112337	1,500	2,359.09	F106407	11.46	2,423.83
F112339	1,500	2,367.30	F106407	11.28	2,423.82
F112335	1,500	2,487.72	F106407	8.87	2,437.80
F112344	1,500	2,558.28	F106407	-7.72	1,980.09
F112331	1,500	2,870.23	F106407	1.39	2,453.81

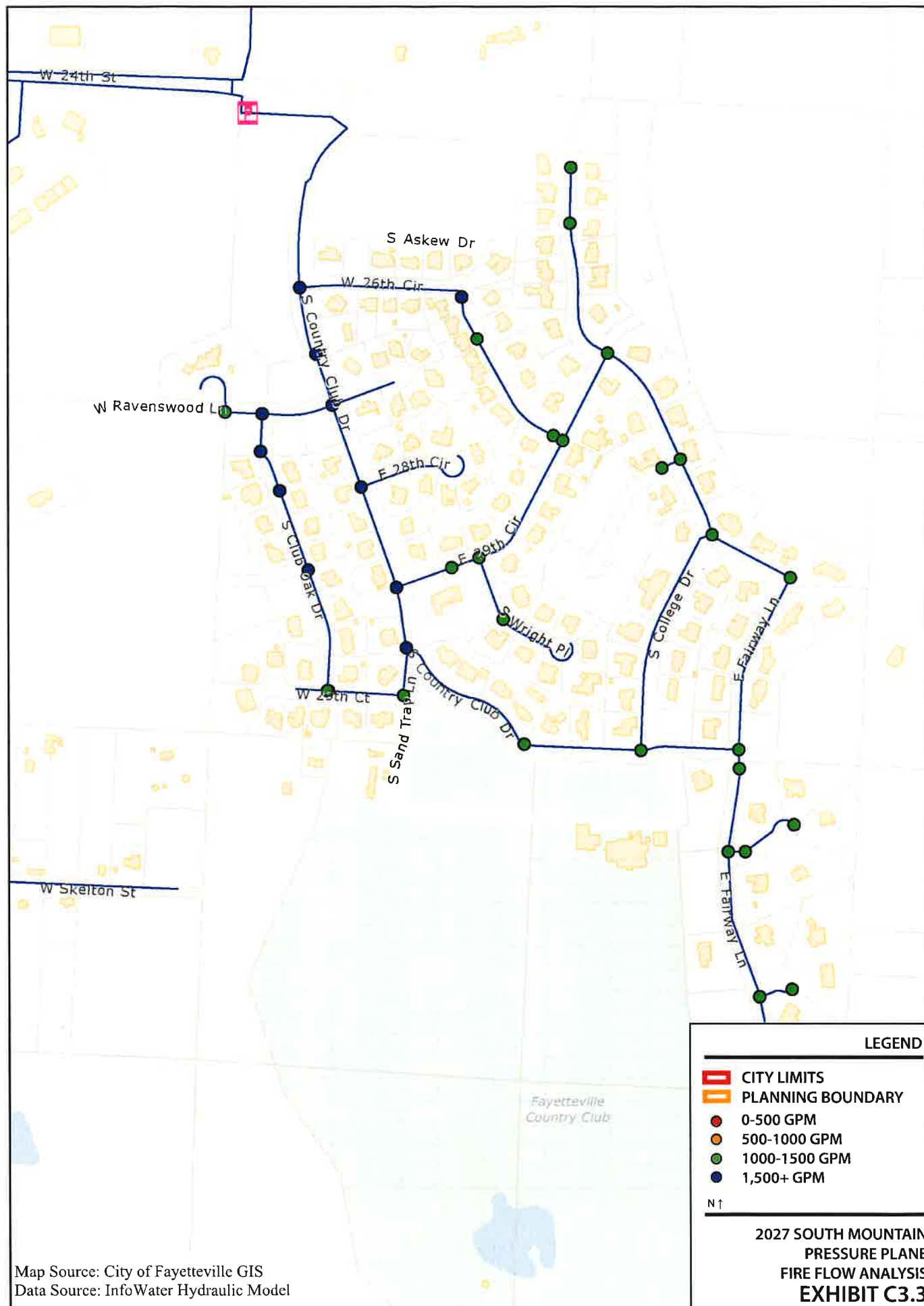
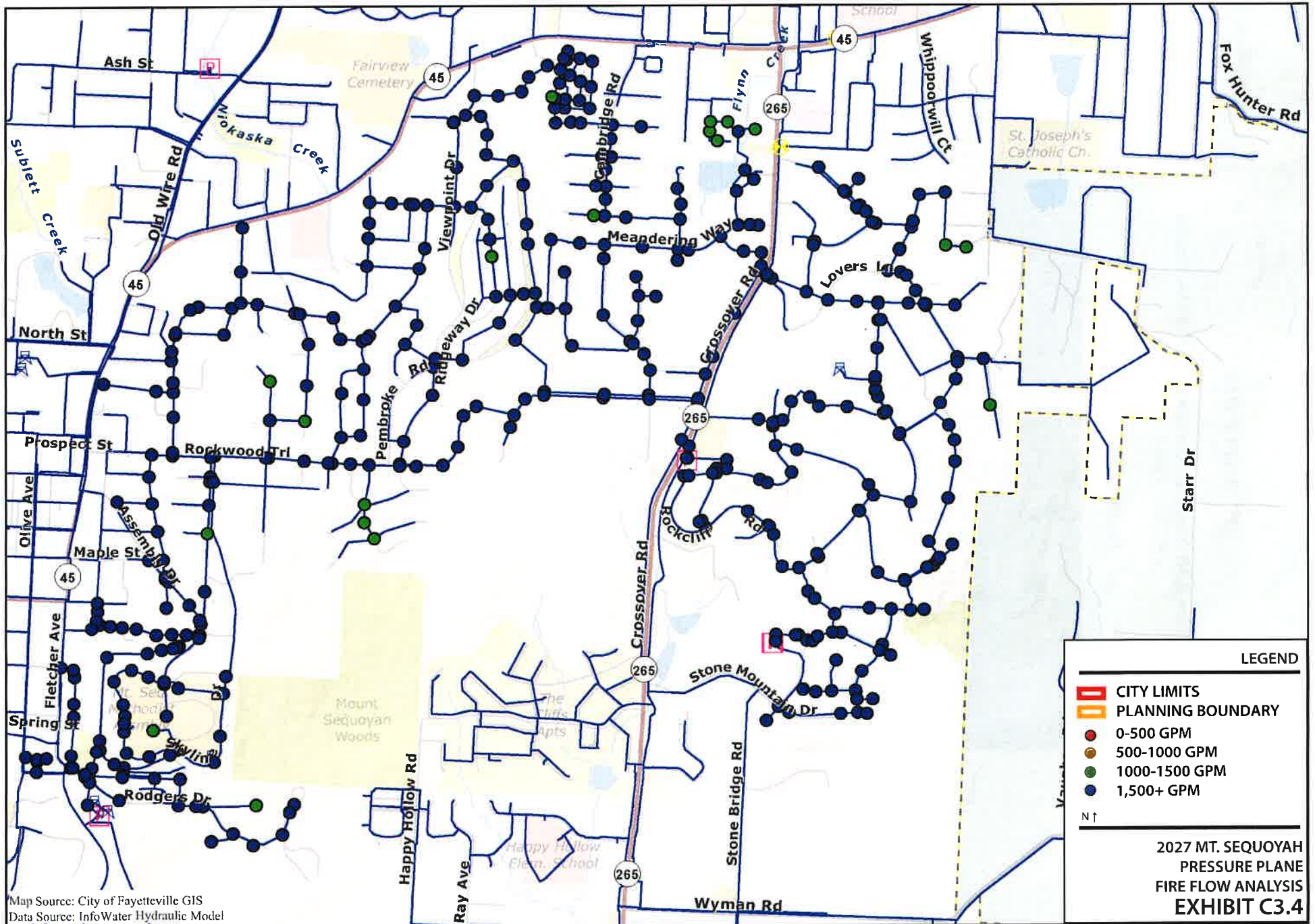


TABLE C3.3

**Phase II South Mountain Pressure Plane Fire Flow Results
(2022 - 2027)**

Fayetteville Water Master Plan

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
V106075	1,500	1,182.70	V106075	20.00	1,229.84
F100545	1,500	1,211.63	F100545	20.00	1,273.47
F100542	1,500	1,215.20	F106202	19.66	1,274.28
F100544	1,500	1,234.08	F106202	19.50	1,293.26
FH10465	1,500	1,234.97	FH10465	20.00	1,285.33
FH10468	1,500	1,239.18	F106202	18.12	1,289.70
F100543	1,500	1,253.47	F106202	18.97	1,310.46
F106024	1,500	1,262.28	F106202	14.55	1,290.48
F108596	1,500	1,267.79	F106202	13.66	1,290.48
F108614	1,500	1,268.32	F106202	13.47	1,289.79
F108597	1,500	1,270.25	F106202	13.23	1,290.24
F108615	1,500	1,279.06	F106202	11.73	1,289.79
F105313	1,500	1,284.25	F105313	20.00	1,342.36
F100520	1,500	1,298.05	F106202	9.27	1,293.56
F113395	1,500	1,306.69	F100545	15.05	1,340.06
F100541	1,500	1,317.45	F106202	14.33	1,345.84
F107964	1,500	1,323.83	F105311	14.43	1,351.27
F102485	1,500	1,440.14	F106202	5.33	1,407.84
F107965	1,500	1,472.98	F105311	9.96	1,472.71
FH10460	1,500	1,478.75	F106202	8.68	1,468.94
F116098	1,500	1,479.54	F106202	14.58	1,515.30
F107971	1,500	1,480.46	F100545	10.78	1,486.47
FH10409	1,500	1,481.10	F100545	11.77	1,494.85
F107968	1,500	1,482.70	F100545	11.85	1,497.04
F100546	1,500	1,483.82	F106202	7.97	1,468.81
F100504	1,500	1,493.45	F100545	13.49	1,521.23
F113397	1,500	1,495.03	F100545	8.82	1,485.94
FH10410	1,500	1,501.96	F106202	12.79	1,523.98
F100502	1,500	1,505.77	F100545	10.84	1,512.38
F106025	1,500	1,524.80	F100545	8.93	1,516.35
F100507	1,500	1,547.59	F100545	0.58	1,476.57
F103503	1,500	1,552.15	F100545	5.57	1,517.20
F100506	1,500	1,582.17	F100545	-2.35	1,488.15
F100503	1,500	1,590.44	F100545	0.99	1,519.38
F100505	1,500	1,625.36	F100545	-4.86	1,510.11
F102482	1,500	1,700.58	F100545	-12.37	1,524.97
F103488	1,500	1,758.68	F100545	-16.63	1,545.99
F100377	1,500	1,789.78	F100545	-14.94	1,583.26



Map Source: City of Fayetteville GIS
Data Source: InfoWater Hydraulic Model

TABLE C3.4

**Phase II Mt. Sequoyah Pressure Plane Fire Flow Results
(2022 - 2027)**

Fayetteville Water Master Plan

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F108266	1,500	1,124.61	F108266	20.00	1,249.18
F105561	1,500	1,184.99	F105561	20.00	1,399.85
F102952	1,500	1,260.66	F102952	20.00	1,304.57
F106332	1,500	1,298.76	F106332	20.00	1,345.20
F110486	1,500	1,329.68	F110486	20.00	1,377.63
F113296	1,500	1,335.03	F113297	20.00	1,455.79
J1584	1,500	1,336.58	J1584	20.00	1,390.24
F104458	1,500	1,348.03	F104458	20.00	1,445.02
F102570	1,500	1,371.18	F114411	12.75	1,392.97
J2092	1,500	1,371.99	J2092	20.00	1,554.90
FH02377	1,500	1,376.76	FH02377	20.00	1,437.30
F101751	1,500	1,380.40	F101751	20.00	1,634.08
F111800	1,500	1,383.97	F111800	20.00	1,470.59
F107311	1,500	1,423.46	F107311	20.00	1,472.18
F104971	1,500	1,424.82	F110486	14.80	1,449.67
F114413	1,500	1,445.53	F114413	20.00	1,618.01
F106328	1,500	1,453.78	V102658	0.29	1,384.07
F113971	1,500	1,489.92	F113971	20.00	1,585.86
F118549	1,500	1,491.82	F118549	20.00	1,589.95

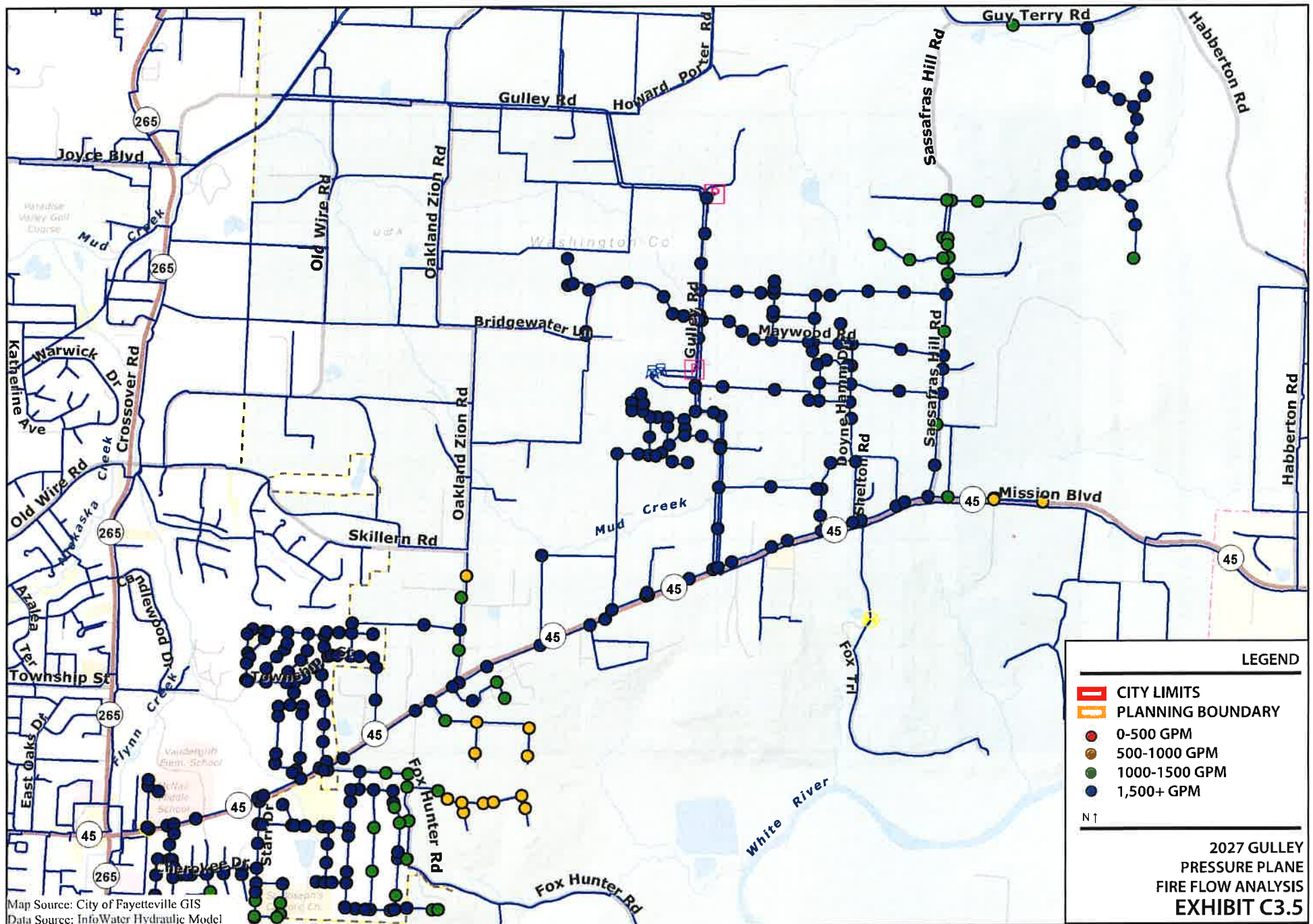


TABLE C3.5

**Phase II Gulley Pressure Plane Fire Flow Results
(2022 - 2027)**

Fayetteville Water Master Plan

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F102929	1,500	648.76	F102929	20.00	717.13
FH11892	1,500	653.41	FH11892	20.00	766.95
F102175	1,500	663.42	FH11892	19.47	770.50
F102928	1,500	667.70	J1612	18.73	732.82
F104866	1,500	669.84	F104866	20.00	741.76
F100231	1,500	682.12	F100231	20.00	752.46
F103172	1,500	754.49	F103172	20.00	855.00
F102644	1,500	758.32	F102644	20.00	858.86
F100198	1,500	758.77	F103172	20.00	860.03
F114911	1,500	767.00	J1612	16.66	821.63
F102173	1,500	775.84	F102173	20.00	912.80
FH11886	1,500	789.78	FH11886	20.00	874.79
F114247	1,500	807.80	F104866	12.65	827.12
F107299	1,500	818.52	F107299	20.00	908.91
FH11885	1,500	847.13	F104866	11.98	862.04
F113278	1,500	907.57	F107299	18.44	989.21
F114454	1,500	962.38	F114454	20.00	1,057.91
FH11884	1,500	1,004.52	F107299	16.55	1,072.10
F112214	1,500	1,034.24	F112214	20.00	1,111.80
F115246	1,500	1,035.04	F115246	20.00	1,151.25
FH10400	1,500	1,037.01	F112214	20.00	1,114.98
F103182	1,500	1,080.01	F103182	20.00	1,197.96
F107313	1,500	1,119.94	F107313	20.00	1,299.09
FH11168	1,500	1,134.43	F101647	17.93	1,248.08
F104865	1,500	1,156.99	F102173	14.06	1,220.20
F101650	1,500	1,168.46	F101647	14.77	1,234.64
FH10401	1,500	1,172.25	F114110	17.12	1,384.49
F106124	1,500	1,200.11	F101647	13.49	1,248.94
F114303	1,500	1,203.22	J1598	16.25	1,320.97
J1016898A	1,500	1,204.20	J1016898A	20.00	1,390.59
F108590	1,500	1,212.78	F101647	16.69	1,312.22
F100375	1,500	1,237.56	F114110	15.07	1,385.55
F100204	1,500	1,239.53	F103172	8.22	1,214.76
J1608	1,500	1,311.13	J1608	20.00	1,469.11
F116867	1,500	1,316.39	F114110	14.63	1,458.52
F102673	1,500	1,340.19	F114110	15.01	1,498.76
J3256	1,500	1,347.82	F114110	14.69	1,495.68
F109596	1,500	1,350.64	F114110	14.73	1,499.72
FH11167	1,500	1,359.67	F101647	14.91	1,438.92
F112110	1,500	1,362.13	F114110	7.43	1,296.46

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F112302	1,500	1,362.39	F114110	14.25	1,495.99
J1606	1,500	1,369.04	J1606	20.00	1,540.28
F112746	1,500	1,373.09	F101647	14.61	1,447.64
FH02778	1,500	1,377.60	J1016898A	10.74	1,390.50
F116352	1,500	1,384.15	F116352	20.00	1,729.55
F114244	1,500	1,398.30	F114244	20.00	1,523.40
FH12090	1,500	1,401.44	FH12090	20.00	1,556.48
FH12066	1,500	1,402.15	J1598	9.43	1,391.67
F112303	1,500	1,405.37	F114110	12.92	1,495.99
F114245	1,500	1,406.66	F114245	20.00	1,544.27
J3260	1,500	1,409.08	F114110	13.78	1,530.01
F112747	1,500	1,409.77	F101647	12.26	1,446.00
FH02968	1,500	1,416.51	FH02968	20.00	1,531.60
F102388	1,500	1,417.44	F107299	15.91	1,501.25
F114304	1,500	1,417.99	J1598	9.00	1,399.35
F112749	1,500	1,418.66	F101647	11.71	1,446.00
F102407	1,500	1,436.65	F107299	9.29	1,427.19
F100203	1,500	1,443.93	F100203	20.00	1,684.29
FH14443	1,500	1,450.64	FH14443	20.00	1,591.07
F109159	1,500	1,453.41	FH02968	18.93	1,557.34
F107687	1,500	1,465.99	F107687	20.00	1,596.89
F109570	1,500	1,466.79	J1016898A	5.60	1,390.93
F106119	1,500	1,469.57	F106119	20.00	1,606.81
FH12084	1,500	1,489.39	FH12084	20.00	1,624.93
F114252	1,500	1,494.52	F114252	20.00	1,676.23
F108591	1,500	1,497.43	F101647	12.33	1,537.01
FH12088	1,500	1,498.62	FH12088	20.00	1,629.04
F102425	1,500	1,499.57	F102425	20.00	1,634.54

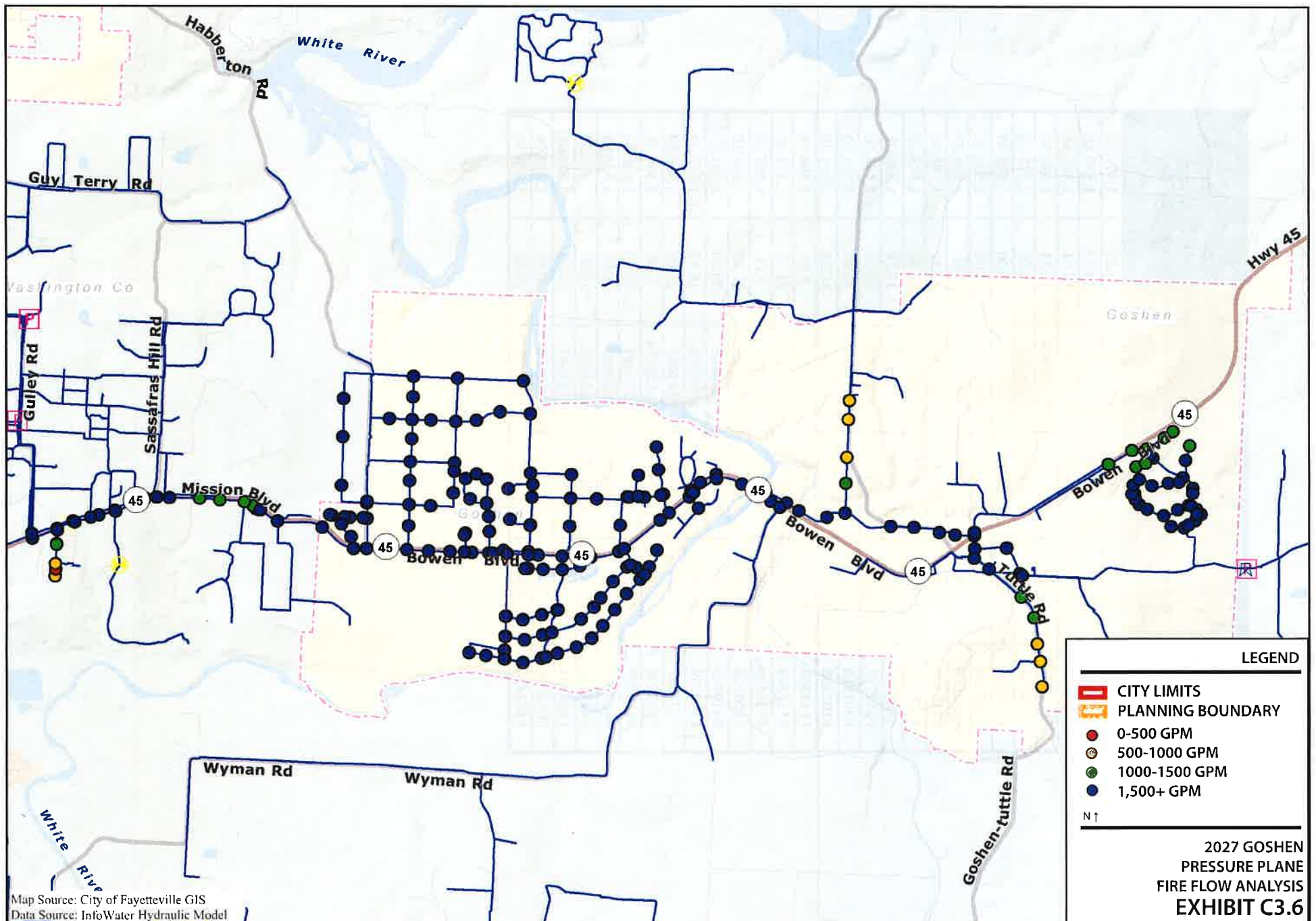


TABLE C3.6

**Phase II Goshen Pressure Plane Fire Flow Results
(2022 - 2077)**

Fayetteville Water Master Plan

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
FH02787	1,500	357.02	FH02787	20.00	827.56
J1726	1,500	516.12	FH02787	17.38	827.66
V100450	1,500	528.81	FH02787	17.66	882.94
FH03468	1,500	695.47	F112076	-48.40	416.38
F114165	1,500	778.38	F112076	-54.38	456.37
F105411	1,500	819.87	F105412	15.08	840.63
F100885	1,500	875.84	F105412	2.17	840.78
F114159	1,500	917.35	F105412	9.27	913.38
F114164	1,500	991.86	F112076	-66.40	552.55
F114162	1,500	1,034.79	F105412	17.16	1,075.98
F114163	1,500	1,188.47	F112076	-67.57	663.09
F109099	1,500	1,249.59	F114149	6.29	989.90
F107398	1,500	1,249.63	F107400	19.24	1,578.84
F109098	1,500	1,279.95	F114149	5.79	989.48
F110500	1,500	1,334.61	F114149	4.95	991.64
F100873	1,500	1,337.39	F114149	7.80	1,129.44
FH02947	1,500	1,337.79	F114149	4.88	990.40
FH10182	1,500	1,352.17	FH10182	20.00	1,756.38
F100199	1,500	1,383.17	F107400	18.34	1,694.08
F106758	1,500	1,416.98	FH02787	4.44	1,133.28
FH10236	1,500	1,420.35	FH02787	4.63	1,142.13
F109093	1,500	1,427.84	F114149	3.30	990.01
FH02948	1,500	1,433.96	F114149	3.17	989.39
F109104	1,500	1,438.43	F114149	3.10	989.31
F109096	1,500	1,457.26	F114149	2.76	989.48
F103170	1,500	1,477.76	F107400	13.38	1,589.65
F109112	1,500	1,486.15	F114149	2.21	989.40
F109106	1,500	1,495.04	F114149	2.08	990.05

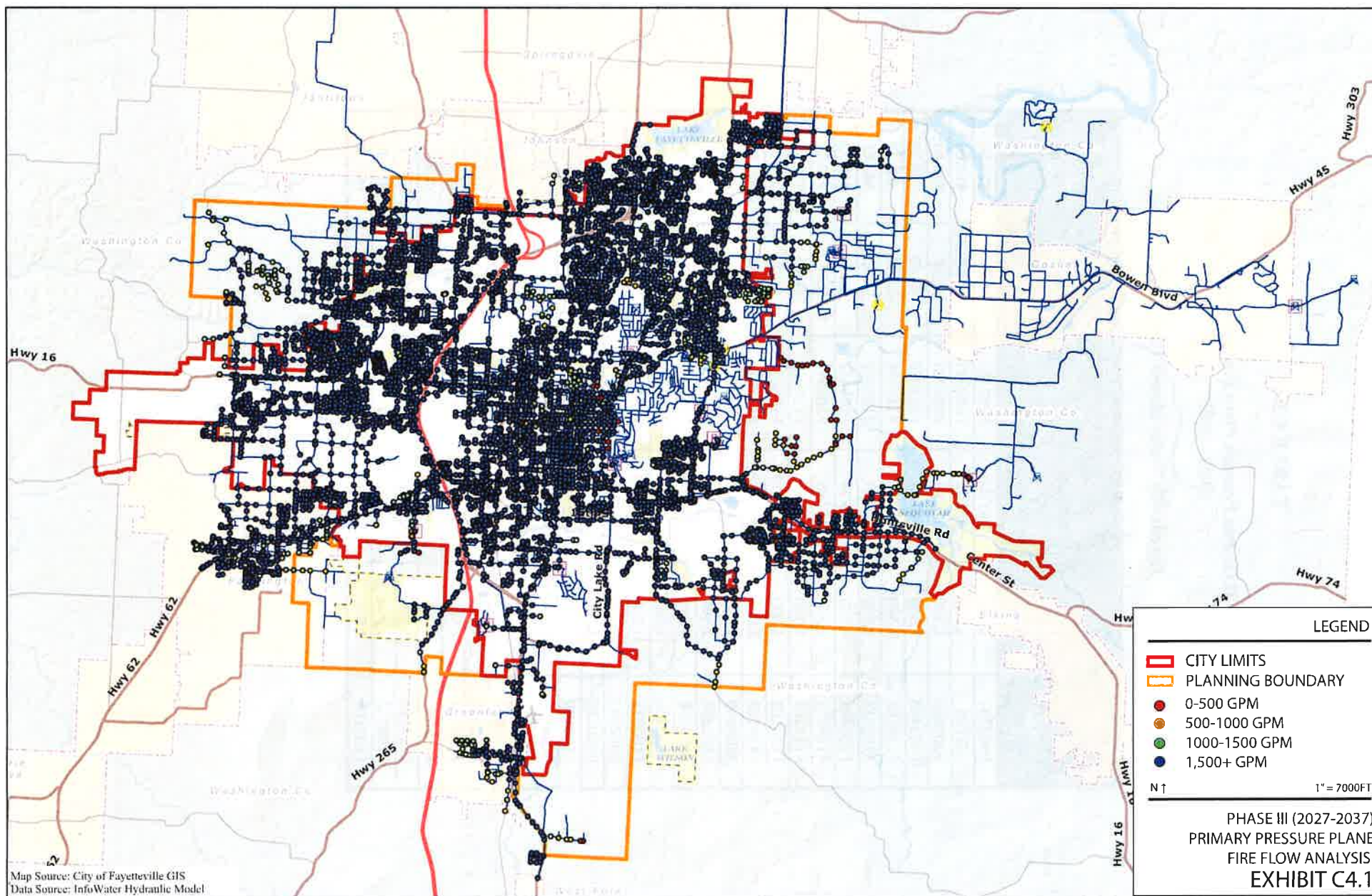


TABLE C4.1

**Phase III Primary Pressure Plane Fire Flow Results
(2027 - 2037)**

Fayetteville Water Master Plan

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F117382	1,500	-2.25	F117382	15.50	2,388.05
F112151	1,500	0.29	F116411	12.46	566.01
F107071	1,500	0.66	F107071	15.42	2,981.27
F111751	1,500	1.12	F111751	11.26	3,872.73
F116411	1,500	1.99	F116411	12.46	459.11
F105909	1,500	13.34	F105909	15.65	622.84
F101489	1,500	66.53	F101489	20.00	62.65
F100432	1,500	115.16	F100432	20.00	116.88
J2130	1,500	160.77	J2130	20.00	163.36
J2008	1,500	189.28	J2008	20.00	213.85
F114984	1,500	193.89	F114557	13.88	198.11
F115205	1,500	230.76	J2008	3.94	216.68
F111727	1,500	261.70	F111727	20.00	3,258.41
F114243	1,500	285.65	J2008	-20.10	219.05
F114459	1,500	315.49	F114459	20.00	360.83
F102172	1,500	346.34	J2008	-47.02	225.72
F116398	1,500	353.27	F114459	12.93	365.98
F115207	1,500	365.41	J2008	-57.24	224.51
F104061	1,500	376.32	F114459	6.22	360.00
F115208	1,500	381.86	J2008	-62.70	229.08
F103858	1,500	387.77	F105427	12.53	396.21
V103375	1,500	390.62	J2008	-65.27	230.55
F100904	1,500	391.44	F105427	11.84	397.60
F104062	1,500	395.96	F114459	8.39	388.31
F102174	1,500	401.17	J2008	-66.06	235.60
F114228	1,500	402.94	J2008	-66.65	235.98
F114227	1,500	404.27	J2008	-67.54	235.80
FH03420	1,500	405.48	J2008	-67.98	235.95
F102119	1,500	406.32	J2008	-68.34	236.11
F102919	1,500	407.87	J2008	-69.13	236.15
F100837	1,500	411.57	F105427	5.38	396.43
F104802	1,500	432.12	J2008	-53.20	271.43
F105497	1,500	432.79	F114459	-2.34	378.13
F115209	1,500	439.92	J2008	-68.01	256.59
F104063	1,500	440.09	F114459	-2.53	383.98
F101534	1,500	450.36	F105576	6.61	423.32
F114242	1,500	460.66	J2008	-71.60	284.28
F101456	1,500	463.33	F105427	-8.56	403.84
F104801	1,500	464.01	J2008	-62.90	278.12
F115769	1,500	476.38	F105578	5.83	430.37
F102990	1,500	477.75	J2008	-48.05	309.26
F102604	1,500	486.40	J2008	-51.52	309.18
F105981	1,500	486.65	F105981	20.00	758.57
F116817	1,500	488.82	F113714	16.21	520.38
J2348	1,500	490.65	F105576	6.64	463.80
F101179	1,500	492.04	J2008	-51.30	312.65
F101178	1,500	495.06	J2008	-54.80	308.95
F101183	1,500	500.17	F114459	-19.17	378.39
F105494	1,500	503.69	F105494	20.00	713.25

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F101182	1,500	504.20	J2008	-20.87	386.10
F104064	1,500	505.87	F114459	-15.38	393.58
F116953	1,500	507.16	F116953	20.00	573.44
F114236	1,500	509.31	J2008	-67.76	299.13
F101180	1,500	511.00	J2008	-51.75	324.49
F106048	1,500	513.96	F105427	-22.05	412.55
F105498	1,500	523.88	F114459	-26.04	377.06
F101181	1,500	525.62	J2008	-42.87	350.49
F114460	1,500	536.32	J2008	-38.41	367.10
F103621	1,500	538.56	F103621	20.00	566.08
F101455	1,500	560.22	F105427	-34.53	420.62
F118150	1,500	568.10	F105427	-35.73	424.08
J842	1,500	581.16	J842	20.00	750.91
F113308	1,500	585.06	F105578	-5.10	430.68
F101184	1,500	585.27	F114459	-42.76	379.54
F112564	1,500	598.45	F112564	20.00	734.07
F102740	1,500	602.71	F115178	-36.68	203.66
J944	1,500	603.76	F115178	-36.76	204.17
F115063	1,500	604.22	F114459	-39.29	398.24
F101533	1,500	605.50	F105578	-7.37	430.37
F101185	1,500	605.67	F114459	-48.95	379.24
F116622	1,500	607.64	F112564	19.44	734.22
V110776	1,500	607.67	F112564	19.44	734.23
F112566	1,500	607.75	F112564	19.44	734.33
F112567	1,500	613.47	F112564	19.08	734.31
F119164	1,500	613.59	F112564	19.08	734.45
F113954	1,500	615.26	F105427	-39.28	451.16
F108965	1,500	622.75	F105427	-34.68	466.69
F112569	1,500	624.84	F112564	18.53	736.81
F119212	1,500	638.05	F119212	20.00	700.91
F101454	1,500	638.34	F105427	-35.21	477.15
F113376	1,500	638.47	F112564	19.25	768.08
F103762	1,500	655.55	F103762	20.00	703.10
F101186	1,500	660.31	F114459	-55.06	398.56
F113685	1,500	669.33	F113685	20.00	807.25
J2300	1,500	671.27	J2300	20.00	777.41
V107887	1,500	675.42	F105238	12.15	861.03
F113684	1,500	680.49	F113684	20.00	816.82
F113028	1,500	682.01	F113921	14.00	845.43
F112928	1,500	700.89	F112927	2.31	597.71
F104224	1,500	707.25	F105427	-44.73	504.60
F101460	1,500	707.90	F105578	-7.98	497.32
V111364	1,500	716.84	V111365	10.62	718.99
F100743	1,500	721.89	F115178	-56.73	205.28
F104068	1,500	737.63	F114459	-62.87	429.54
F113952	1,500	772.51	F105427	-49.52	539.43
F101187	1,500	782.38	F114459	-66.55	448.74
F110315	1,500	786.94	F112927	-4.86	597.71
F114626	1,500	800.30	F114626	20.00	957.15
F116394	1,500	804.50	F116394	20.00	1,062.86
FH14189	1,500	806.40	FH14189	20.00	1,059.31
F105598	1,500	809.06	F114459	1.79	740.47
F110728	1,500	815.40	F113866	17.48	853.31
F116524	1,500	819.19	F112927	-7.70	598.02
V108941	1,500	825.25	F112927	-8.27	597.71
F113867	1,500	827.49	F113866	16.61	861.21
F114457	1,500	829.43	F114459	-0.67	741.31

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F101458	1,500	834.44	F105427	-48.07	586.01
F112511	1,500	840.43	F112511	20.00	956.05
F115872	1,500	845.65	F117326	17.67	1,022.72
V101475	1,500	846.37	F103762	20.00	908.29
F113412	1,500	846.71	F115178	-64.19	225.60
F102785	1,500	853.47	F105282	2.30	800.77
F104069	1,500	854.23	F114459	-68.32	487.92
V108940	1,500	858.81	F112927	-11.38	597.71
F117861	1,500	859.47	F117861	20.00	902.99
F106926	1,500	864.04	F105282	2.43	811.50
J1616	1,500	869.76	F108674	12.94	919.06
F115860	1,500	894.32	F115860	20.00	937.63
J3028	1,500	894.53	F100244	15.55	944.60
F111916	1,500	905.60	F108674	8.79	886.60
V100679	1,500	906.33	V100679	20.00	955.31
F111915	1,500	909.50	F108674	9.09	895.19
FH11458	1,500	911.54	F105427	-46.34	644.56
V100678	1,500	911.57	V100678	20.00	970.07
F111914	1,500	912.10	F108674	9.09	897.71
F105719	1,500	914.33	F105719	20.00	1,027.12
F113542	1,500	919.54	F105282	6.28	890.68
F109632	1,500	921.48	J2258	6.35	957.21
F106142	1,500	921.55	F114453	16.12	972.46
F112453	1,500	934.99	J2300	11.69	956.69
F115223	1,500	935.48	F114459	-14.73	741.14
F101189	1,500	939.15	F114459	-72.22	529.11
F108902	1,500	943.26	J2258	6.35	979.94
FH14341	1,500	944.69	F108674	9.36	934.07
F106445	1,500	945.86	F106445	20.00	1,002.19
F102812	1,500	947.85	F105427	-50.10	658.83
F113866	1,500	957.35	F113866	20.00	1,004.93
F104314	1,500	957.78	F114459	-69.36	547.63
F104580	1,500	967.55	F104580	20.00	1,014.67
F114834	1,500	974.04	F112927	-4.78	739.53
F102813	1,500	974.79	F105427	-51.73	672.50
J1620	1,500	983.94	F108674	7.77	946.32
F112986	1,500	985.07	F114012	-2.55	930.08
F115184	1,500	998.45	F115184	20.00	1,063.15
F106331	1,500	998.63	F106331	20.00	1,133.00
F100255	1,500	1,001.13	F100244	9.81	999.17
V107888	1,500	1,007.63	F105238	8.29	863.67
V102900	1,500	1,014.16	F113700	18.49	1,077.10
F114458	1,500	1,014.24	F114459	-26.06	740.54
F100262	1,500	1,020.97	F100262	20.00	1,088.99
F102599	1,500	1,037.14	F102599	20.00	1,158.60
J1628	1,500	1,038.12	F108674	8.58	1,012.12
F113411	1,500	1,043.75	F115178	-70.42	260.77
F104228	1,500	1,048.54	F105427	-37.30	772.53
V101487	1,500	1,052.41	F113478	19.32	1,111.21
FH11291	1,500	1,052.53	F105578	10.05	1,053.96
J1528	1,500	1,054.91	F105427	-25.12	828.13
V102777	1,500	1,057.07	F115279	-29.23	720.72
F117418	1,500	1,057.80	F117861	15.72	1,087.54
F113697	1,500	1,058.53	F113697	20.00	1,210.32
J1526	1,500	1,059.70	F105427	-25.93	828.13
F107281	1,500	1,061.29	F105427	-26.20	828.13
F102716	1,500	1,065.09	F102716	20.00	1,102.73

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F118218	1,500	1,066.64	F118218	20.00	1,123.04
FH02342	1,500	1,070.72	F105578	9.43	1,053.96
F116576	1,500	1,070.83	F105578	9.46	1,055.00
V110931	1,500	1,071.00	V110931	20.00	1,107.09
F110313	1,500	1,079.37	F110313	20.00	1,133.08
F107017	1,500	1,081.40	F115178	9.31	1,019.15
V109028	1,500	1,083.44	V109028	20.00	1,137.58
F110314	1,500	1,083.72	V109028	20.00	1,137.88
FH10579	1,500	1,083.96	F115178	9.26	1,016.62
F118032	1,500	1,085.75	F118032	20.00	1,140.11
F107828	1,500	1,086.17	F117327	17.50	1,325.51
F112446	1,500	1,089.66	F105578	8.84	1,055.96
FH11294	1,500	1,093.02	F105578	8.65	1,053.96
F112451	1,500	1,094.10	F105578	8.67	1,055.69
F112450	1,500	1,097.87	F105578	8.48	1,054.09
F105718	1,500	1,098.57	F105718	20.00	1,191.47
F112443	1,500	1,099.56	F105578	8.42	1,054.09
F104579	1,500	1,100.32	F105578	8.42	1,054.81
F117424	1,500	1,101.41	F117424	20.00	1,153.46
F108263	1,500	1,103.95	F113981	16.92	1,309.74
F112448	1,500	1,105.65	F105578	8.23	1,054.51
F102344	1,500	1,106.87	F102344	20.00	1,263.55
F101581	1,500	1,106.96	F114459	-66.68	644.67
F117200	1,500	1,114.26	F117200	20.00	1,171.65
F109602	1,500	1,114.50	F109602	20.00	1,233.96
F113359	1,500	1,115.96	F113361	17.84	1,169.22
F105489	1,500	1,117.38	F105489	20.00	1,173.56
F101405	1,500	1,117.71	F101405	20.00	1,327.89
V102893	1,500	1,126.32	V102893	20.00	1,203.71
F113377	1,500	1,126.49	F112564	-8.07	875.45
F104703	1,500	1,128.05	F105578	7.45	1,055.00
F112447	1,500	1,131.20	F105578	7.30	1,054.09
F108260	1,500	1,132.02	F117327	16.13	1,325.51
FH02344	1,500	1,133.85	F105578	7.21	1,053.96
F115917	1,500	1,136.13	F115917	20.00	1,193.54
F117862	1,500	1,137.20	F117420	15.35	1,166.31
F113686	1,500	1,145.74	F113686	20.00	1,377.86
V102947	1,500	1,147.04	V102947	20.00	1,221.37
F101917	1,500	1,149.47	F117327	15.62	1,325.51
FH03753	1,500	1,150.98	J2258	6.34	1,197.51
F109605	1,500	1,151.31	F109602	18.74	1,257.23
J1824	1,500	1,151.94	F105578	6.62	1,055.85
F107125	1,500	1,152.92	F107125	20.00	1,259.35
J2072	1,500	1,156.30	J2072	20.00	1,320.56
F118055	1,500	1,158.75	F118055	20.00	1,219.97
F113982	1,500	1,159.97	F113981	15.91	1,327.20
V107490	1,500	1,160.44	F109602	17.85	1,255.26
F115959	1,500	1,160.80	F115959	20.00	1,253.42
V106064	1,500	1,161.27	F105282	-5.37	1,030.75
F109604	1,500	1,161.74	F109602	17.84	1,256.39
F104137	1,500	1,162.21	F105427	-24.48	914.63
F117178	1,500	1,164.83	F105578	6.20	1,057.08
F115180	1,500	1,167.84	F105282	-5.37	1,036.57
F107860	1,500	1,168.20	F107860	20.00	1,213.19
F107952	1,500	1,168.87	F105282	-5.37	1,037.48
V102172	1,500	1,170.62	V102172	20.00	1,325.53
J94	1,500	1,172.66	J94	20.00	1,465.10

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
J1822	1,500	1,176.59	F105578	5.70	1,055.05
F101714	1,500	1,176.91	F101714	20.00	1,241.20
FH12246	1,500	1,179.21	V101008	18.74	1,215.59
F108381	1,500	1,179.58	V101008	18.39	1,214.36
F106141	1,500	1,180.69	F114453	4.08	1,125.65
J2320	1,500	1,181.36	J2320	20.00	1,294.20
F112243	1,500	1,182.42	F117861	17.47	1,226.48
F114621	1,500	1,183.29	F114621	20.00	1,369.37
F106441	1,500	1,184.67	F106441	20.00	1,242.01
FH10324	1,500	1,185.03	F105278	18.74	1,267.99
V104455	1,500	1,186.26	F105592	18.91	1,232.24
F108379	1,500	1,188.06	F102716	15.49	1,210.70
F113312	1,500	1,189.77	F105578	-36.97	598.09
F116556	1,500	1,191.59	F117200	16.95	1,233.33
F100763	1,500	1,191.85	F113471	-6.65	1,058.26
F100245	1,500	1,193.94	F108674	5.26	1,101.14
J2318	1,500	1,194.56	J2318	20.00	1,296.57
F113683	1,500	1,195.88	F113685	19.22	1,420.58
F115910	1,500	1,201.79	F117420	19.77	1,259.83
F101918	1,500	1,201.85	F117327	14.15	1,330.01
FH02345	1,500	1,204.16	F105578	4.65	1,053.96
F107048	1,500	1,204.85	F107048	20.00	1,289.98
F106693	1,500	1,205.79	F117327	13.88	1,325.51
FH14563	1,500	1,214.60	F108674	-2.76	999.58
F114625	1,500	1,214.83	F114625	20.00	1,459.28
F116044	1,500	1,216.16	F116044	20.00	1,278.69
F101572	1,500	1,218.47	F114459	-58.40	740.47
FH02384	1,500	1,225.04	F105578	3.87	1,053.96
F108261	1,500	1,225.17	F117327	13.28	1,325.51
F103945	1,500	1,229.78	F103945	20.00	1,295.16
V100092	1,500	1,231.93	V100092	20.00	1,312.34
V101257	1,500	1,232.97	F115178	-15.51	481.91
F115859	1,500	1,234.54	F118218	15.84	1,271.51
F106694	1,500	1,236.37	F117327	12.92	1,325.51
F102901	1,500	1,241.40	F102901	20.00	1,604.74
V100193	1,500	1,244.11	V100193	20.00	1,305.33
F112223	1,500	1,244.97	F112223	20.00	1,301.82
F101399	1,500	1,246.01	F101399	20.00	1,450.29
F113928	1,500	1,247.79	F105238	9.96	1,244.07
F118090	1,500	1,248.57	F118090	20.00	1,312.75
F104315	1,500	1,248.87	F114459	-52.89	781.73
F100452	1,500	1,250.15	F108674	-3.47	1,019.76
F100761	1,500	1,253.61	F115178	8.66	1,122.67
F109601	1,500	1,254.54	F109602	14.54	1,311.14
F102745	1,500	1,254.91	F103762	20.00	1,348.20
F100758	1,500	1,256.92	F103762	20.00	1,350.45
J1570	1,500	1,257.96	J2258	6.34	1,302.63
F116552	1,500	1,260.29	F118218	15.06	1,292.84
F112879	1,500	1,264.33	F118055	16.29	1,305.18
F101397	1,500	1,265.90	F114625	19.71	1,510.66
F101400	1,500	1,268.91	F101400	20.00	1,478.41
F103888	1,500	1,271.64	F103888	20.00	1,337.88
F108264	1,500	1,271.66	F108264	20.00	1,586.46
V103618	1,500	1,272.34	V103618	20.00	1,393.98
F106134	1,500	1,274.40	J2320	19.16	1,384.96
V108021	1,500	1,276.95	V108021	20.00	1,368.31
J58	1,500	1,279.05	F118055	14.43	1,307.67

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F113329	1,500	1,279.14	F105578	1.83	1,054.23
F105438	1,500	1,279.33	F105438	20.00	1,326.31
J1624	1,500	1,279.61	F108674	-5.92	1,012.12
F113320	1,500	1,283.04	F105578	1.69	1,054.46
F115271	1,500	1,283.30	F115271	20.00	1,337.55
F103351	1,500	1,283.97	F115178	-8.29	574.56
F113497	1,500	1,284.48	F113497	20.00	1,354.87
F115889	1,500	1,288.88	F105578	1.69	1,060.29
F115861	1,500	1,290.73	F118090	19.66	1,354.66
F102648	1,500	1,293.56	F115092	5.49	1,233.65
FH03916	1,500	1,294.02	FH03916	20.00	1,428.86
FH10278	1,500	1,294.20	F115092	5.87	1,239.00
F100257	1,500	1,294.65	F115092	5.49	1,234.69
F100286	1,500	1,298.57	F107125	17.61	1,387.40
F102687	1,500	1,300.42	J2318	17.88	1,385.88
F113410	1,500	1,302.04	F115178	-73.83	309.81
F113331	1,500	1,307.02	F105578	0.77	1,054.67
F103190	1,500	1,309.08	F115092	6.09	1,256.06
F106436	1,500	1,312.51	F115178	-3.26	672.72
F108013	1,500	1,314.47	F100262	15.89	1,365.03
V101280	1,500	1,315.88	F115178	-6.23	608.39
F100246	1,500	1,315.90	F108674	-1.74	1,096.87
F112822	1,500	1,317.24	F112822	20.00	1,520.86
V110933	1,500	1,321.06	V110933	20.00	1,386.51
J1626	1,500	1,330.59	F108674	-8.26	1,023.76
F107459	1,500	1,331.84	F107459	20.00	1,394.67
F105991	1,500	1,333.42	F105578	-0.27	1,054.38
V106502	1,500	1,336.36	V106502	20.00	1,400.99
V107750	1,500	1,337.96	V108021	17.95	1,412.06
F109793	1,500	1,338.49	F105578	-0.45	1,054.82
F118237	1,500	1,346.79	F118237	20.00	1,441.02
F108254	1,500	1,346.93	F117327	8.83	1,313.03
F101916	1,500	1,347.62	F117327	11.05	1,379.57
F113979	1,500	1,349.96	F117327	11.25	1,389.34
F105723	1,500	1,350.49	V103604	17.50	1,599.88
F106698	1,500	1,351.33	F117327	11.21	1,389.34
V100510	1,500	1,352.10	V100510	20.00	1,443.67
J354	1,500	1,354.06	V108021	18.23	1,432.43
FH10604	1,500	1,354.26	F115178	-20.84	480.93
F117207	1,500	1,355.43	F117207	20.00	1,425.45
F100083	1,500	1,355.78	F114012	16.21	1,398.92
F108511	1,500	1,356.57	F117327	10.08	1,359.04
V107746	1,500	1,357.15	V108021	15.98	1,413.08
F115091	1,500	1,357.21	F117327	11.05	1,389.34
F100755	1,500	1,357.68	F115178	9.90	1,346.31
F105273	1,500	1,358.79	F105273	20.00	1,426.09
FH10443	1,500	1,358.97	F115178	-4.35	672.59
F100414	1,500	1,359.34	F115178	-4.33	673.71
F108257	1,500	1,359.74	F117327	8.28	1,310.14
F104698	1,500	1,359.99	F105578	-1.34	1,054.09
F106144	1,500	1,360.49	F106144	20.00	1,441.12
V107748	1,500	1,360.82	V108021	15.68	1,413.89
F113894	1,500	1,360.93	F113894	20.00	1,418.60
F116554	1,500	1,361.58	F118219	15.75	1,401.94
F114032	1,500	1,362.31	F114032	20.00	1,415.39
F117882	1,500	1,366.83	F117882	20.00	1,591.05
FH10449	1,500	1,367.13	F115178	-10.92	572.89

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
FH10789	1,500	1,368.60	F115178	-0.92	727.56
V105137	1,500	1,372.03	F100262	18.25	1,448.16
F107476	1,500	1,372.06	F107476	20.00	1,446.36
F106980	1,500	1,372.32	F100262	18.26	1,448.55
V105664	1,500	1,372.78	V105664	20.00	1,446.84
F107676	1,500	1,372.93	F107676	20.00	1,542.05
FH03751	1,500	1,373.81	F105238	3.77	865.66
F109598	1,500	1,373.92	F109602	9.88	1,372.41
F113543	1,500	1,374.49	F105282	-11.92	1,167.66
F104994	1,500	1,375.63	F104994	20.00	1,600.05
F113869	1,500	1,376.75	F115184	10.51	1,380.95
F103362	1,500	1,377.89	F115178	-4.77	673.70
F105564	1,500	1,378.41	F105564	20.00	1,505.53
F110400	1,500	1,378.89	F110400	20.00	1,608.19
J348	1,500	1,378.98	V108021	17.81	1,454.45
J346	1,500	1,379.54	V108021	17.68	1,453.71
F110528	1,500	1,380.41	FH03916	15.20	1,450.37
J460	1,500	1,381.30	FH03916	15.41	1,454.44
FH10452	1,500	1,382.21	F115178	-8.93	609.00
F116919	1,500	1,387.28	F116919	20.00	1,463.42
F106132	1,500	1,388.60	F107125	12.34	1,415.96
F101818	1,500	1,388.92	F114431	18.32	1,495.56
F103356	1,500	1,389.37	F115178	-5.07	672.72
V107742	1,500	1,389.61	V108021	16.36	1,450.90
F118105	1,500	1,392.63	V108021	16.92	1,459.55
F103357	1,500	1,393.11	F115178	-5.11	674.62
V109271	1,500	1,393.61	FH03916	15.22	1,464.99
F116584	1,500	1,396.79	F116584	20.00	1,467.79
V100388	1,500	1,398.43	V100388	20.00	1,468.54
F107580	1,500	1,399.32	F115178	-1.51	728.12
F118006	1,500	1,400.23	F118006	20.00	1,476.55
FH03157	1,500	1,400.72	FH03157	20.00	1,474.79
J1922	1,500	1,401.63	F110400	19.60	1,621.23
F107884	1,500	1,402.83	V100388	19.69	1,470.81
F118169	1,500	1,404.09	V108021	15.07	1,452.55
FH10444	1,500	1,405.08	F115178	-5.45	672.59
F103397	1,500	1,405.65	J2320	12.32	1,434.00
F114988	1,500	1,407.81	F114988	20.00	1,506.56
F101398	1,500	1,408.62	F113686	18.60	1,644.98
V100978	1,500	1,409.88	F115178	-5.53	673.51
FH03153	1,500	1,411.44	FH03153	20.00	1,484.55
F106913	1,500	1,413.55	F113497	17.76	1,472.85
F103193	1,500	1,413.64	F100262	15.84	1,468.03
F113188	1,500	1,414.10	F113188	20.00	1,501.41
F105706	1,500	1,418.21	F105706	20.00	1,481.69
F117416	1,500	1,418.51	F117416	20.00	1,603.15
F105354	1,500	1,418.59	F115178	6.86	1,118.90
F114293	1,500	1,420.52	F108674	3.43	1,271.66
V108020	1,500	1,421.02	F116919	18.38	1,485.32
V110553	1,500	1,421.68	V110553	20.00	1,491.58
F100415	1,500	1,421.87	F115178	-5.81	674.22
F110529	1,500	1,423.29	FH03916	12.69	1,459.90
F101768	1,500	1,423.86	F116411	0.83	593.03
J1924	1,500	1,425.15	F110400	18.09	1,608.11
J1074	1,500	1,426.07	J1074	20.00	1,499.91
F103195	1,500	1,426.87	F103195	20.00	1,532.14
V106501	1,500	1,428.38	V106501	20.00	1,497.74

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F102650	1,500	1,430.39	F100262	14.58	1,473.00
F100261	1,500	1,430.97	F100262	14.52	1,473.00
F112984	1,500	1,435.12	F112984	20.00	1,522.56
F103361	1,500	1,436.10	F115178	-6.17	673.60
F105221	1,500	1,436.52	F105221	20.00	1,533.54
F102600	1,500	1,436.56	V103604	15.03	1,599.65
F107367	1,500	1,436.59	F107367	20.00	1,643.39
J2880	1,500	1,437.54	F105238	-0.22	776.74
J280	1,500	1,437.90	F115178	-10.89	598.94
F102649	1,500	1,438.93	F102649	20.00	1,533.52
FH10442	1,500	1,441.31	F115178	-6.32	672.59
V105760	1,500	1,446.36	F115178	-2.41	729.15
F101715	1,500	1,448.10	F101715	20.00	1,534.42
F112252	1,500	1,448.43	F112252	20.00	1,529.85
F120368	1,500	1,448.72	F115178	-17.75	538.19
J1070	1,500	1,448.86	FH03157	19.14	1,518.37
F102768	1,500	1,448.92	V101654	15.02	1,478.29
F100283	1,500	1,449.61	F114453	3.59	1,376.52
F102312	1,500	1,449.68	F114851	7.88	1,422.27
F106330	1,500	1,450.12	V103604	14.61	1,599.20
V104056	1,500	1,451.24	F115178	-6.54	673.41
FH03937	1,500	1,451.91	F115178	-11.33	598.50
F112985	1,500	1,453.01	F112985	20.00	1,539.01
F100416	1,500	1,453.10	F115178	-6.59	673.10
F114291	1,500	1,453.44	F108674	-7.87	1,122.52
F104569	1,500	1,454.51	F104569	20.00	1,723.42
F115320	1,500	1,456.79	V100388	19.27	1,524.05
F113427	1,500	1,457.34	F115178	-7.72	656.19
F106143	1,500	1,457.66	F106143	20.00	1,555.86
F100430	1,500	1,457.83	V100388	19.13	1,524.05
F102484	1,500	1,459.02	F102484	20.00	1,531.89
F110530	1,500	1,464.44	FH03916	9.79	1,462.03
FH03756	1,500	1,464.85	J2258	6.33	---
F106385	1,500	1,466.51	F106385	20.00	1,550.52
F108375	1,500	1,467.20	F108375	20.00	1,533.50
F112221	1,500	1,472.31	F118219	17.98	1,534.26
F115334	1,500	1,472.68	F115334	20.00	1,557.36
F117145	1,500	1,473.47	V108021	14.81	1,521.89
F101713	1,500	1,473.58	F101713	20.00	1,558.32
V101258	1,500	1,474.01	F115178	-26.36	481.34
F100405	1,500	1,474.24	F115178	-8.15	656.32
F114321	1,500	1,475.59	F109602	7.01	1,435.97
F107457	1,500	1,476.18	F107457	20.00	1,546.83
F102571	1,500	1,477.63	F102571	20.00	1,562.92
V108019	1,500	1,477.84	F116919	17.04	1,533.69
F102683	1,500	1,479.61	F115178	-7.25	672.72
F103365	1,500	1,481.86	F115178	-8.35	656.32
F102478	1,500	1,482.93	F115178	-8.37	656.32
F118915	1,500	1,485.60	F115178	-8.44	656.32
F110531	1,500	1,485.63	FH03916	8.42	1,464.99
F105673	1,500	1,485.91	F105578	-6.50	1,054.09
F100772	1,500	1,485.93	F115178	8.79	1,346.48
F103366	1,500	1,490.15	F115178	-8.56	656.32
J1422	1,500	1,490.89	J1422	20.00	1,605.10
F102042	1,500	1,490.97	F105578	-6.65	1,055.63
FH10578	1,500	1,491.19	F115178	4.52	1,016.62
FH14510	1,500	1,493.35	F115178	-5.88	692.19

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
V110940	1,500	1,494.18	V110940	20.00	1,593.33
F105348	1,500	1,494.90	F115178	4.48	1,017.98
F118049	1,500	1,496.79	F113497	17.38	1,556.13
F107131	1,500	1,497.73	F102344	16.13	1,618.21
F111559	1,500	1,499.36	F111559	20.00	1,849.08
V103282	1,500	1,499.84	V103282	20.00	1,571.49

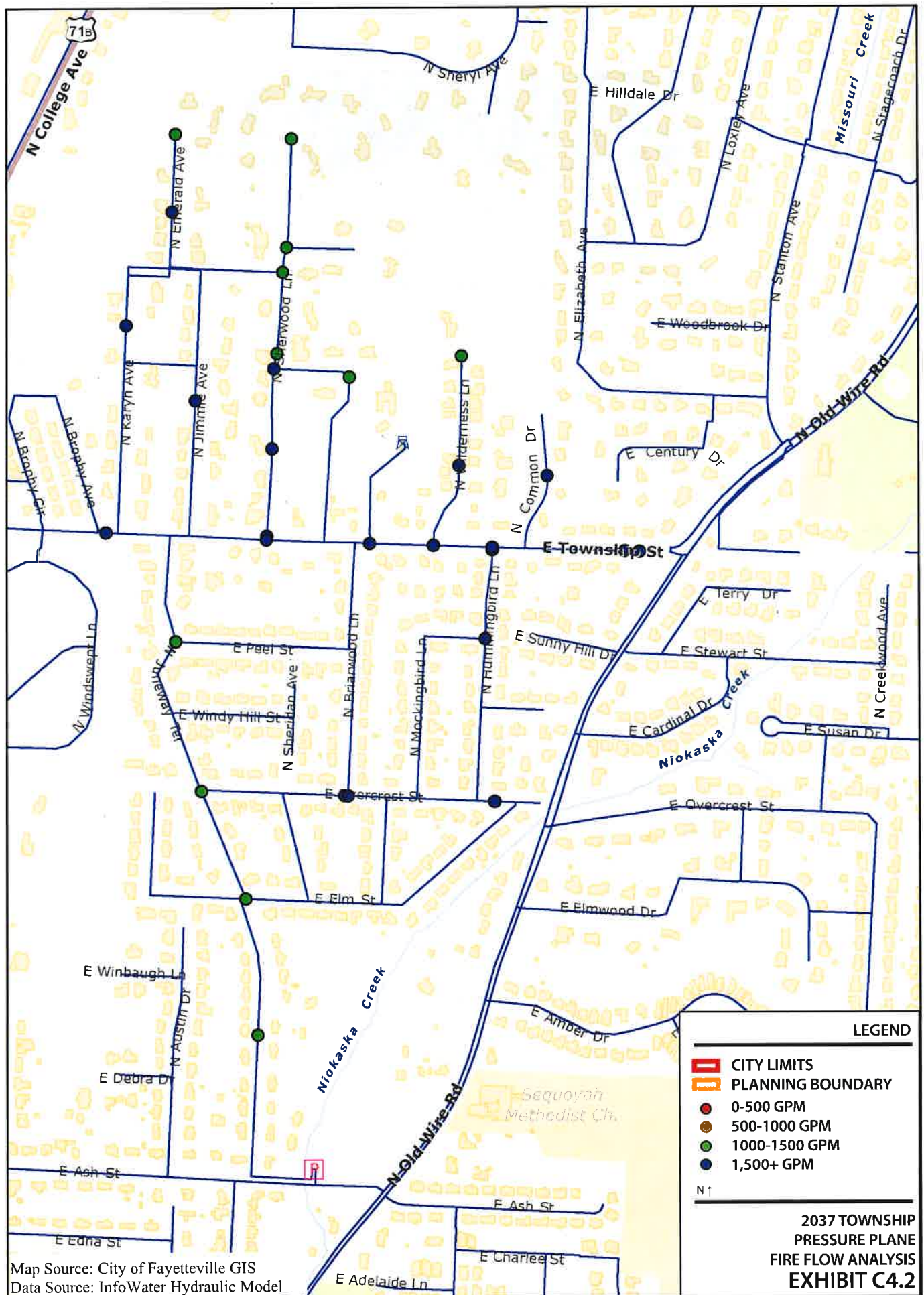


TABLE C4.2

**Phase III Township Pressure Plane Fire Flow Results
(2027 - 2037)**

Fayetteville Water Master Plan

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F108209	1,500	1,041.65	F114817	15.66	1,102.44
F112924	1,500	1,153.99	F112924	20.00	1,367.09
F106404	1,500	1,202.69	F106404	20.00	1,303.66
F106407	1,500	1,257.38	F106407	20.00	1,580.30
V106209	1,500	1,269.74	F114817	-4.29	1,118.33
F100093	1,500	1,344.66	F112924	19.90	1,597.66
F102290	1,500	1,357.27	F104945	19.12	1,545.93
J3280	1,500	1,362.65	J3280	20.00	1,638.46
F108212	1,500	1,403.66	F114817	17.28	1,517.42
F115015	1,500	1,468.20	F106407	16.97	1,698.67
V108165	1,500	1,488.65	V108165	20.00	1,639.62
F107715	1,500	1,572.21	F106404	16.62	1,660.22
F106402	1,500	1,573.56	F106402	20.00	1,697.83
FH02198	1,500	1,617.13	F106407	12.45	1,686.37
F106406	1,500	1,683.85	F106407	12.96	1,774.96
FH11961	1,500	1,738.07	F114817	9.48	1,728.13
V100262	1,500	1,757.95	F106407	13.23	1,873.97
F102287	1,500	1,760.21	F114817	8.67	1,736.19
FH11960	1,500	1,888.53	F114817	13.43	1,954.62
J790	1,500	1,965.10	V108165	13.07	1,975.97
F110614	1,500	1,995.44	F106407	7.52	1,892.64
F112327	1,500	2,051.52	F106407	6.54	1,914.13
F102310	1,500	2,074.54	F104944	18.29	2,214.85
FH10097	1,500	2,134.30	J3280	-1.74	1,807.96
FH03942	1,500	2,211.02	F106407	13.48	2,364.76
J2114	1,500	2,232.46	F106407	13.10	2,365.75
F112337	1,500	2,378.44	F106407	10.83	2,365.78
F112339	1,500	2,386.56	F106407	10.66	2,365.76
F112335	1,500	2,492.88	F106407	8.45	2,379.60
F112344	1,500	2,531.83	F106407	-8.23	1,932.52
F112331	1,500	2,801.97	F106407	1.38	2,395.59

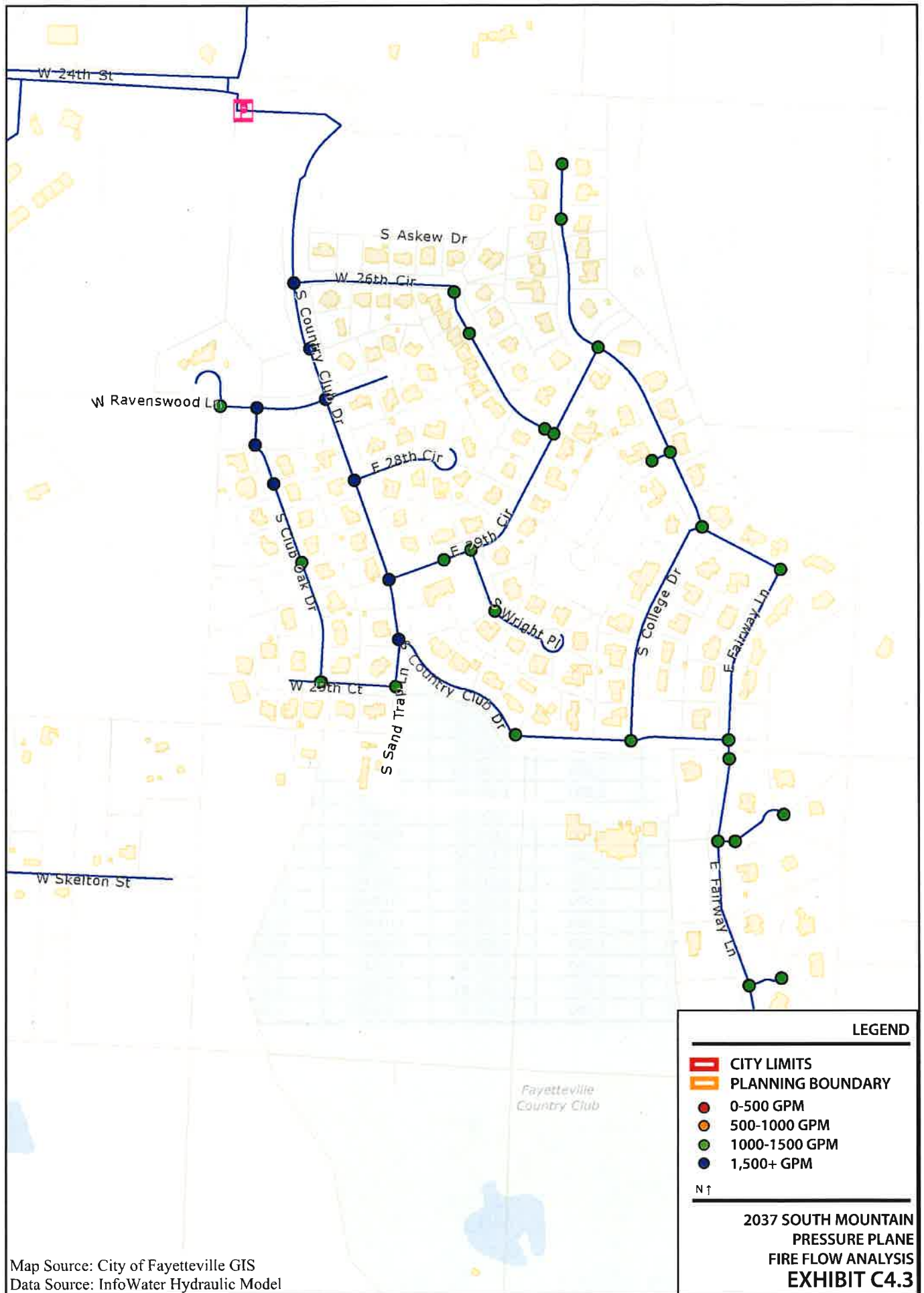
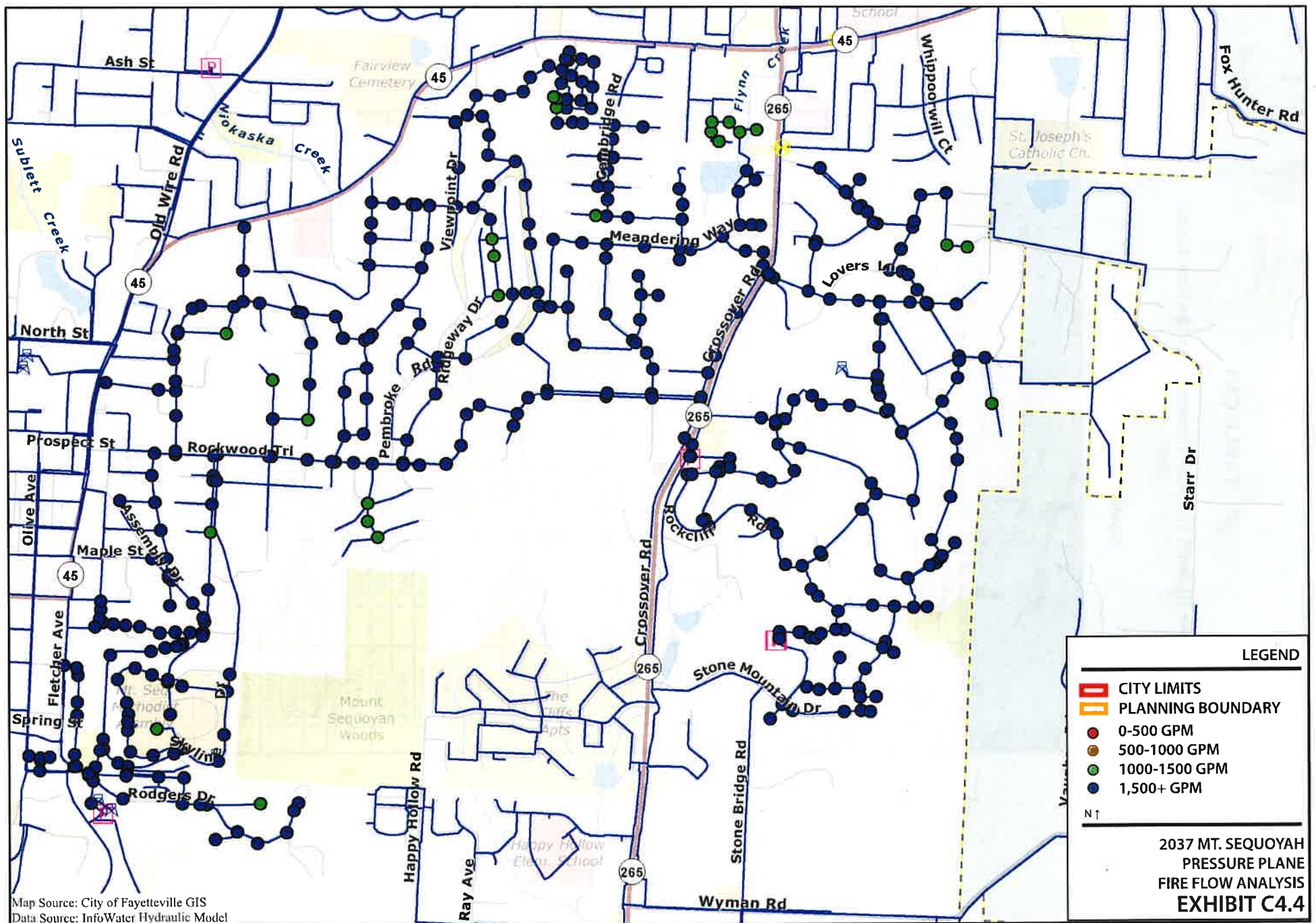


TABLE C4.3

**Phase III South Mountain Pressure Plane Fire Flow Results
(2027 - 2037)**

Fayetteville Water Master Plan

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
V106075	1,500	1,173.79	V106075	20.00	1,221.03
F100545	1,500	1,199.83	F100545	20.00	1,261.77
F100542	1,500	1,203.88	F106202	19.60	1,262.69
F100544	1,500	1,222.69	F106202	19.41	1,281.40
FH10465	1,500	1,225.31	FH10465	20.00	1,275.77
FH10468	1,500	1,227.88	F106202	18.01	1,277.80
F100543	1,500	1,241.97	F106202	18.86	1,298.32
F106024	1,500	1,252.61	F106202	14.19	1,278.63
F108596	1,500	1,257.36	F106202	13.43	1,278.63
F108614	1,500	1,258.98	F106202	13.06	1,277.93
F108597	1,500	1,259.48	F106202	13.05	1,278.39
F108615	1,500	1,269.61	F106202	11.34	1,277.93
F105313	1,500	1,273.06	F106202	18.69	1,330.30
F100520	1,500	1,288.03	F106202	8.97	1,281.70
F113395	1,500	1,294.31	F100545	14.99	1,327.33
F100541	1,500	1,305.76	F106202	14.17	1,333.18
F107964	1,500	1,311.90	F105311	14.43	1,339.40
F102485	1,500	1,427.73	F106202	5.16	1,394.21
F107965	1,500	1,459.24	F105311	9.96	1,458.96
FH10460	1,500	1,465.05	F106202	8.55	1,454.24
F116098	1,500	1,466.01	F106202	14.35	1,499.95
F107971	1,500	1,466.58	F100545	10.62	1,471.38
FH10409	1,500	1,467.90	F100545	11.50	1,479.55
F107968	1,500	1,469.55	F100545	11.57	1,481.78
F100546	1,500	1,470.10	F106202	7.86	1,454.21
F100504	1,500	1,480.81	F100545	13.11	1,505.58
F113397	1,500	1,481.07	F100545	8.67	1,470.86
FH10410	1,500	1,488.25	F106202	12.55	1,508.36
F100502	1,500	1,492.96	F100545	10.51	1,496.92
F106025	1,500	1,511.72	F100545	8.61	1,500.78
F100507	1,500	1,532.96	F100545	0.55	1,461.65
F103503	1,500	1,538.77	F100545	5.29	1,501.58
F100506	1,500	1,567.33	F100545	-2.37	1,473.03
F100503	1,500	1,576.66	F100545	0.76	1,503.73
F100505	1,500	1,610.32	F100545	-4.90	1,494.65
F102482	1,500	1,685.20	F100545	-12.39	1,509.23
F103488	1,500	1,742.98	F100545	-16.64	1,529.91
F100377	1,500	1,773.39	F100545	-14.94	1,566.60



LEGEND

CITY LIMITS

PLANNING BOUNDARY

0-500 GPM

500-1000 GPM

1000-1500 GPM

1,500+ GPM

2037 MT. SEQUOYAH
PRESSURE PLANE
FIRE FLOW ANALYSIS
EXHIBIT C4.4

TABLE C4.4

**Phase III Mt. Sequoyah Pressure Plane Fire Flow Results
(2027 - 2037)**

Fayetteville Water Master Plan

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F108266	1,500	1,114.35	F108266	20.00	1,236.40
F105561	1,500	1,225.28	F105561	20.00	1,426.95
F102952	1,500	1,246.59	F102952	20.00	1,290.57
F106332	1,500	1,283.56	F106332	20.00	1,330.07
F113296	1,500	1,311.15	F113297	20.00	1,431.28
F110486	1,500	1,313.75	F110486	20.00	1,361.79
J2092	1,500	1,319.94	J2092	20.00	1,503.15
F104458	1,500	1,329.11	F104458	20.00	1,426.37
J1584	1,500	1,329.82	J1584	20.00	1,383.23
F102570	1,500	1,355.97	F114411	12.74	1,376.71
FH02377	1,500	1,368.90	FH02377	20.00	1,429.67
F111800	1,500	1,372.98	F111800	20.00	1,459.93
F101751	1,500	1,378.61	F101751	20.00	1,631.38
F107311	1,500	1,406.62	F107311	20.00	1,455.75
F104971	1,500	1,407.53	F110486	14.80	1,433.01
F114413	1,500	1,422.56	F114413	20.00	1,595.64
F106328	1,500	1,430.55	V102658	0.29	1,360.77
F118549	1,500	1,460.05	F118549	20.00	1,557.08
F118515	1,500	1,487.30	F118549	17.92	1,565.24
F118513	1,500	1,491.31	F118549	19.55	1,585.45
F102360	1,500	1,492.82	F110486	12.02	1,503.41
F101677	1,500	1,495.53	J2092	17.32	1,640.36
F113971	1,500	1,496.72	F113971	20.00	1,592.19
F102569	1,500	1,497.50	J2092	16.67	1,628.45
F112375	1,500	1,499.12	F112375	20.00	1,629.01

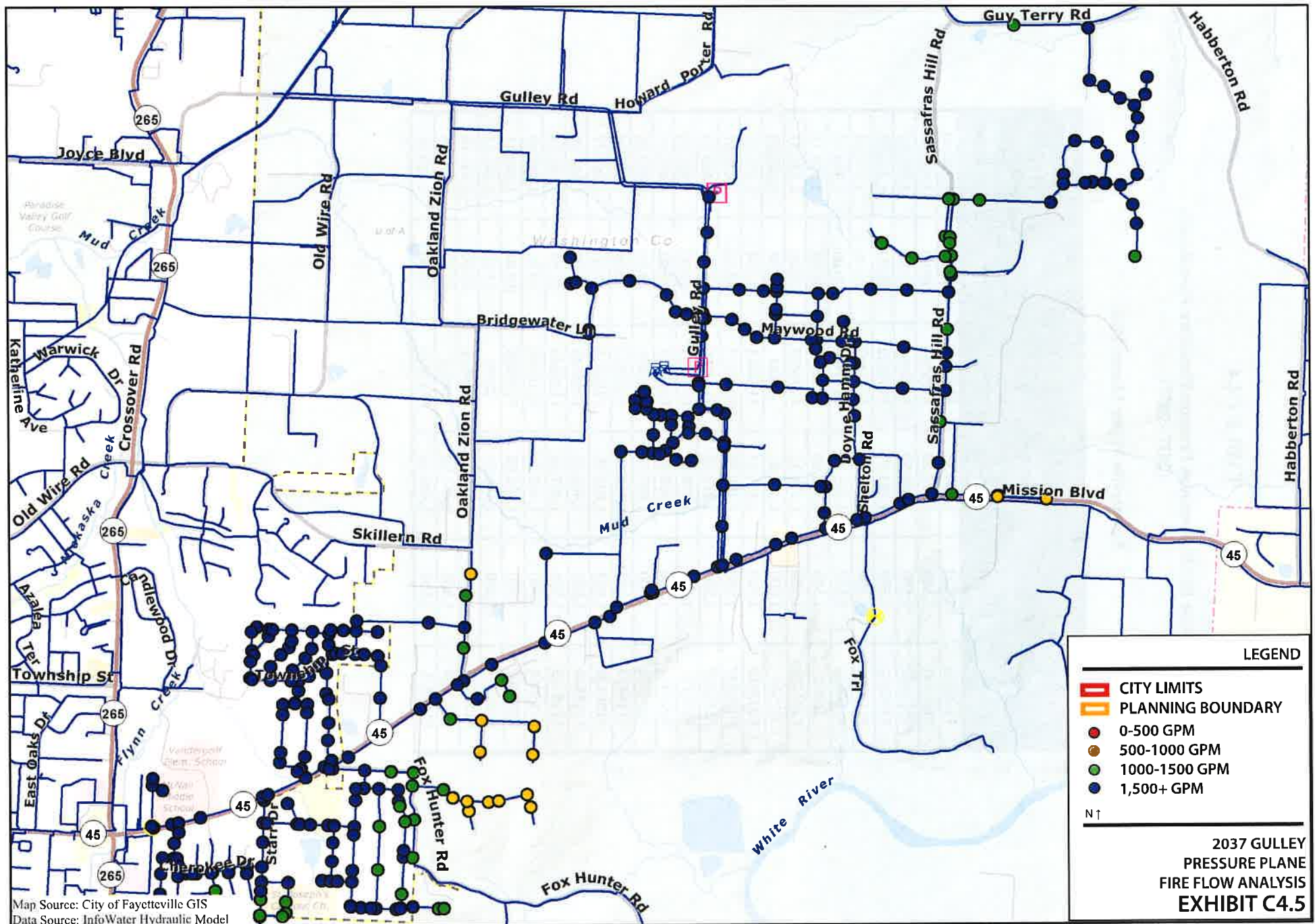


TABLE C4.5

**Phase III Gulley Pressure Plane Fire Flow Results
(2027 - 2037)**

Fayetteville Water Master Plan

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F102929	1,500	648.00	F102929	20.00	716.16
FH11892	1,500	652.64	FH11892	20.00	765.77
F102175	1,500	662.66	FH11892	19.47	769.36
F102928	1,500	667.31	J1612	18.73	732.13
F104866	1,500	668.92	F104866	20.00	740.65
F100231	1,500	686.17	F100231	20.00	756.85
F103172	1,500	760.82	F103172	20.00	860.70
F102644	1,500	764.64	F102644	20.00	864.56
F100198	1,500	765.14	F103172	20.00	865.76
F114911	1,500	766.05	J1612	16.66	820.47
F102173	1,500	774.02	F102173	20.00	914.80
FH11886	1,500	790.47	FH11886	20.00	875.82
F114247	1,500	809.21	F104866	12.65	828.36
F107299	1,500	820.28	F107299	20.00	909.80
FH11885	1,500	848.26	F104866	11.98	863.06
F113278	1,500	908.65	F107299	18.44	989.59
F114454	1,500	962.40	F114454	20.00	1,057.19
FH11884	1,500	1,004.82	F107299	16.55	1,071.88
F115246	1,500	1,041.06	F115246	20.00	1,156.72
F112214	1,500	1,044.18	F112214	20.00	1,115.52
FH10400	1,500	1,046.86	F112214	20.00	1,118.67
F103182	1,500	1,078.84	F103182	20.00	1,195.89
F107313	1,500	1,120.29	F107313	20.00	1,297.53
FH11168	1,500	1,134.15	F101647	17.93	1,246.81
F104865	1,500	1,156.55	F102173	14.06	1,219.16
F101650	1,500	1,167.95	F101647	14.77	1,233.59
FH10401	1,500	1,190.12	FH10401	20.00	1,396.91
F106124	1,500	1,199.27	F101647	13.49	1,247.71
F114303	1,500	1,202.53	J1598	16.25	1,319.05
F108590	1,500	1,211.79	F101647	16.69	1,311.22
J1016898A	1,500	1,219.70	J1016898A	20.00	1,397.96
F100204	1,500	1,246.61	F103172	8.22	1,222.14
F100375	1,500	1,254.60	F114110	15.15	1,397.92
J1608	1,500	1,310.36	J1608	20.00	1,466.25
F116867	1,500	1,333.74	F114110	14.74	1,471.25
F102673	1,500	1,349.64	F114110	15.18	1,511.25
FH11167	1,500	1,357.15	F101647	14.91	1,435.78
J3256	1,500	1,364.68	F114110	14.88	1,508.13
J1606	1,500	1,367.56	J1606	20.00	1,536.54
F109596	1,500	1,367.75	F114110	14.93	1,512.21

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
F112746	1,500	1,370.50	F101647	14.60	1,444.48
FH02778	1,500	1,379.18	J1016898A	11.07	1,397.82
F112302	1,500	1,380.84	F114110	14.41	1,508.48
F112110	1,500	1,381.13	F114110	7.43	1,308.34
F114244	1,500	1,395.57	F114244	20.00	1,519.96
FH12090	1,500	1,398.00	FH12090	20.00	1,552.02
FH12066	1,500	1,399.25	J1598	9.43	1,388.86
F116352	1,500	1,401.62	F116352	20.00	1,742.86
F114245	1,500	1,403.66	F114245	20.00	1,540.41
F112747	1,500	1,407.31	F101647	12.23	1,442.83
FH02968	1,500	1,413.83	FH02968	20.00	1,528.35
F102388	1,500	1,414.94	F107299	15.90	1,497.44
F114304	1,500	1,414.98	J1598	9.00	1,396.50
F112749	1,500	1,416.08	F101647	11.69	1,442.83
F112303	1,500	1,423.08	F114110	13.03	1,508.48
J3260	1,500	1,427.16	F114110	13.86	1,542.59
F102407	1,500	1,433.63	F107299	9.29	1,424.17
FH14443	1,500	1,447.76	FH14443	20.00	1,587.36
F109159	1,500	1,450.51	FH02968	18.93	1,553.95
F100203	1,500	1,460.03	F100203	20.00	1,694.52
F107687	1,500	1,462.72	F107687	20.00	1,592.89
F106119	1,500	1,466.05	F106119	20.00	1,602.48
F109570	1,500	1,469.26	J1016898A	5.85	1,398.29
FH12084	1,500	1,485.72	FH12084	20.00	1,620.48
F114252	1,500	1,488.79	F114252	20.00	1,669.67
F108591	1,500	1,493.59	F101647	12.33	1,532.88
FH12088	1,500	1,495.06	FH12088	20.00	1,624.76
F102425	1,500	1,495.82	F102425	20.00	1,630.03

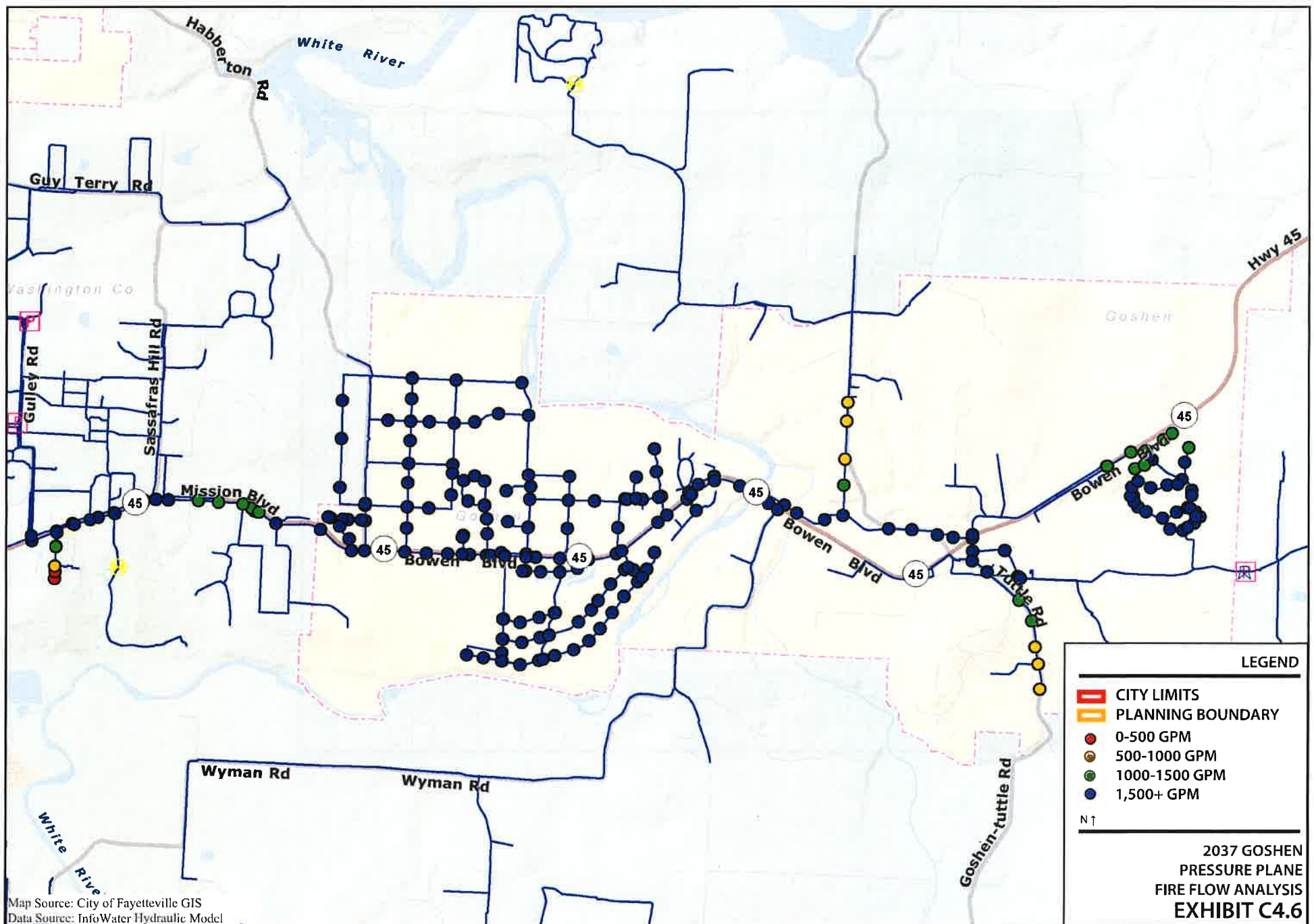


TABLE C4.6

**Phase III Goshen Pressure Plane Fire Flow Results
(2027 - 2037)**

Fayetteville Water Master Plan

Fire Node ID	Target Fire Flow (gpm)	Available Fire Flow			Fire Node Flow to Maintain 10-psi @ Critical Node (gpm)
		Fire Flow @ 20-psi at Fire Node (gpm)	System Critical Node ID	System Critical Node Pressure (psi)	
FH02787	1,500	343.63	FH02787	20.00	808.33
J1726	1,500	497.10	FH02787	17.36	808.46
V100450	1,500	509.28	FH02787	17.66	861.35
FH03468	1,500	669.68	F112076	-48.44	389.62
F114165	1,500	750.30	F112076	-54.42	425.63
F105411	1,500	814.21	F105412	14.58	826.77
F100885	1,500	865.78	F105412	2.17	826.92
F114159	1,500	903.97	F105412	9.27	897.76
F114164	1,500	956.60	F112076	-66.47	510.82
F114162	1,500	1,015.63	F114149	10.03	1,017.69
F107398	1,500	1,050.80	F107400	19.24	1,364.23
F114163	1,500	1,143.87	F112076	-67.64	609.32
FH10182	1,500	1,174.40	FH10182	20.00	1,551.81
F100199	1,500	1,188.28	F107400	17.92	1,470.29
F109099	1,500	1,238.38	F114149	5.17	888.95
F103170	1,500	1,263.43	F114233	13.27	1,367.99
F109098	1,500	1,267.18	F114149	4.68	888.53
F103169	1,500	1,292.50	F114233	12.33	1,366.08
F100873	1,500	1,302.24	F114149	6.92	1,018.61
F114113	1,500	1,321.02	F114233	11.45	1,366.37
F110500	1,500	1,326.28	F114149	3.81	890.51
FH02947	1,500	1,329.45	F114149	3.73	889.24
F106758	1,500	1,378.04	FH02787	4.44	1,096.07
FH10236	1,500	1,380.62	FH02787	4.63	1,104.43
F109093	1,500	1,416.05	F114149	2.17	889.01
FH02948	1,500	1,419.92	F114149	2.05	888.41
F109104	1,500	1,427.48	F114149	1.97	888.39
F109096	1,500	1,443.04	F114149	1.64	888.53
F109112	1,500	1,469.77	F114149	1.10	888.67
F109106	1,500	1,482.66	F114149	0.95	889.13

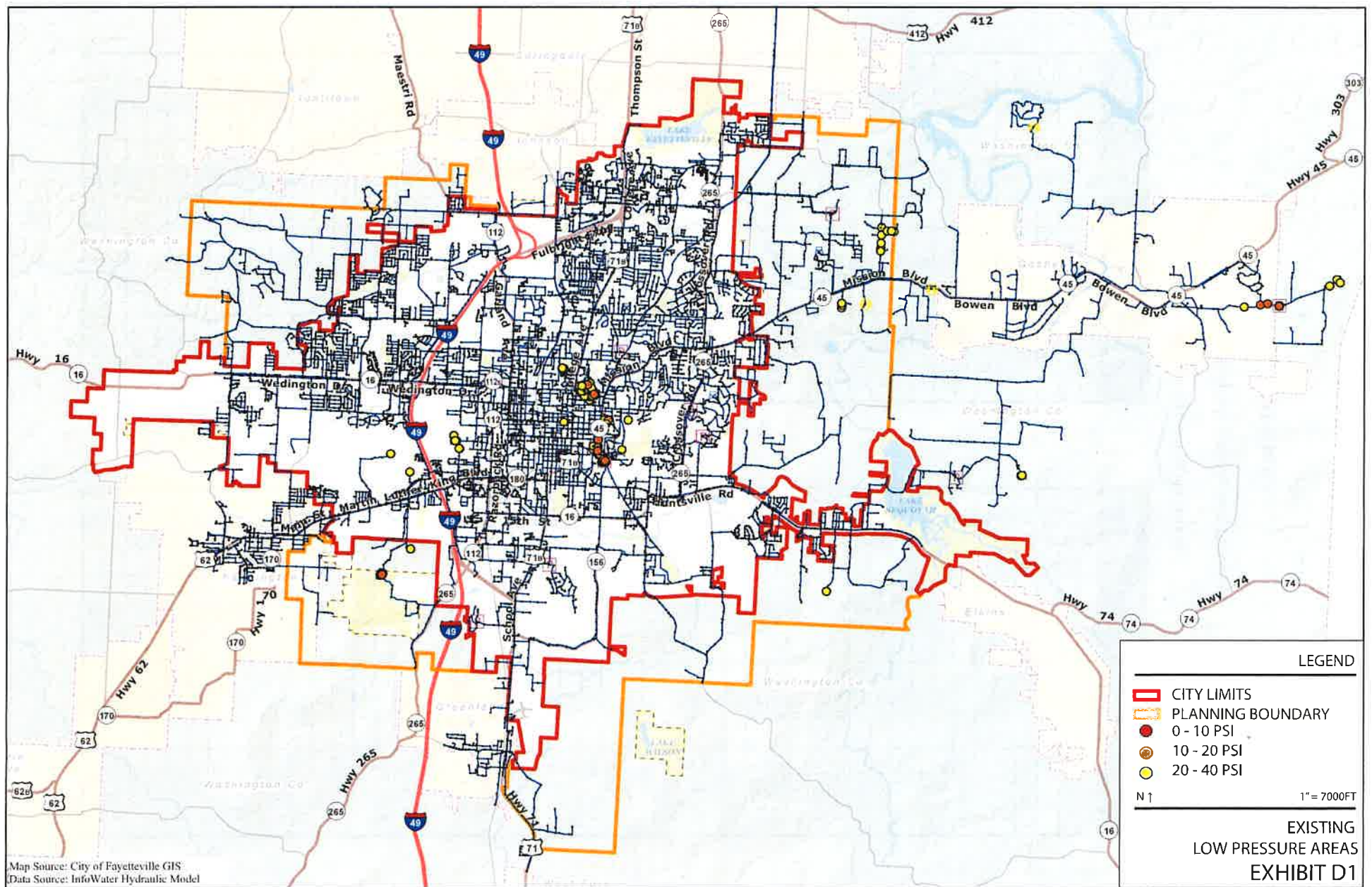


TABLE D1**Existing Low Pressure Analysis Results****Fayetteville Water Master Plan**

ID	Demand (gpm)	Elevation (ft)	Pressure (psi)
F116411	0.56	1,540	13.54
F111283	0.06	1,539	14.03
F111287	0.08	1,538	14.23
F111286	0.45	1,538	14.23
F113245	0.34	1,536	15.30
F107071	0.13	1,533	16.52
F105909	0.30	1,533	16.61
F114149	0.45	1,508	17.01
F115094	0.00	1,538	17.65
F112151	0.00	1,526	19.44
F104513	0.48	1,524	20.43
F111727	0.90	1,523	20.92
F102869	0.00	1,523	21.08
F109151	0.16	1,500	21.12
F101771	0.00	1,521	21.82
V102853	0.50	1,519	22.64
F115032	0.36	1,519	22.87
FH11625	0.00	1,518	23.29
F101723	1.38	1,517	23.81
F115093	0.00	1,522	25.00
FH02787	0.00	1,584	25.62
F113961	1.04	1,510	26.29
F105981	0.36	1,510	26.58
V108930	0.18	1,507	27.69
V100450	5.03	1,579	27.96
F112152	0.56	1,506	28.20
V108568	0.18	1,505	28.67
J1726	0.00	1,577	28.76
F115030	0.26	1,505	28.92
FH10826	0.00	1,624	29.38
F113493	0.09	1,499	30.57
F103824	0.08	1,621	30.83
F117026	0.00	1,507	31.07
F114110	0.08	1,565	31.65
V111367	0.11	1,619	31.79
F114154	0.00	1,618	32.20
F105891	0.26	1,497	32.34
F105890	0.16	1,496	32.50
V110649	0.21	1,562	32.77
F112927	0.00	1,495	32.77
F101473	0.65	1,495	33.07
F116352	0.86	1,560	33.92
F115028	1.14	1,492	34.48
F114401	0.00	1,492	34.55
F106265	0.80	1,491	34.78
F115847	0.00	1,498	35.00
F105238	0.29	1,478	35.06
F112758	0.00	1,489	35.32
F101830	1.44	1,489	35.77

ID	Demand (gpm)	Elevation (ft)	Pressure (psi)
F111729	0.06	1,489	35.77
J842	0.00	1,488	35.95
F116370	0.00	1,488	36.07
J2962	0.00	1,555	36.11
F105494	0.00	1,487	36.41
F101749	0.44	1,487	36.54
F105725	0.35	1,487	36.79
F114112	0.00	1,552	37.06
F114597	0.33	1,485	37.15
F110926	0.34	1,484	37.64
F107393	0.47	1,485	37.64
F101768	0.09	1,484	37.66
V105592	49.96	1,485	37.69
F110278	0.28	1,484	37.82
F117327	0.00	1,484	37.82
F116394	0.00	1,483	37.92
F117111	0.00	1,484	37.92
F117410	0.00	1,483	37.96
F117931	0.00	1,483	37.98
J1760	0.60	1,483	38.01
F101501	0.09	1,483	38.10
F108455	0.09	1,483	38.18
F108454	0.21	1,483	38.18
F101517	0.68	1,483	38.20
F112767	1.26	1,483	38.24
FH14189	0.00	1,483	38.31
V106606	2.37	1,483	38.32
F101948	0.92	1,482	38.33
F118099	0.00	1,490	38.52
F112369	3.64	1,549	38.61
F114393	0.00	1,482	38.70
F105971	0.13	1,481	38.73
F105987	1.63	1,718	38.87
V103604	0.25	1,482	38.91
F117326	0.00	1,481	39.01
F101750	0.32	1,481	39.12
F113981	0.00	1,481	39.13
F112304	0.52	1,548	39.21
F118113	2.29	1,481	39.28
F101506	1.06	1,480	39.33
F108543	0.30	1,481	39.35
F115846	0.00	1,488	39.35
F101952	6.95	1,480	39.42
F103421	0.35	1,480	39.49
F118196	0.82	1,479	39.74
F108544	0.00	1,480	39.79
F118021	0.00	1,479	39.90
F102901	10.55	1,478	39.93
F114407	18.26	1,703	39.97

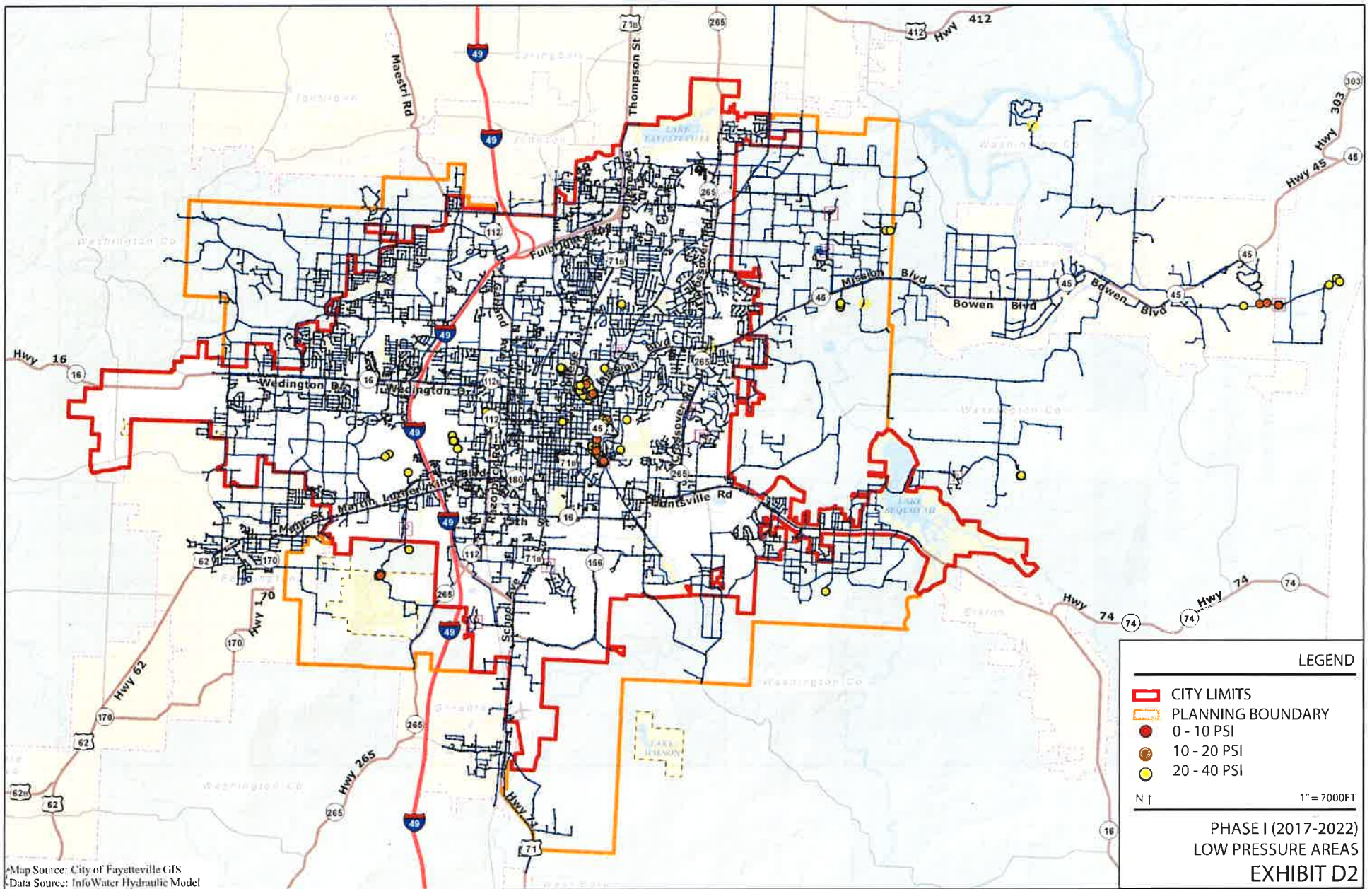


TABLE D2

Phase I Low Pressure Analysis Results
2017 - 2022

Fayetteville Water Master Plan

ID	Demand (gpm)	Elevation (ft)	Pressure (psi)
F116411	1.12	1,540	11.96
F111283	0.32	1,539	12.51
F111287	0.35	1,538	12.71
F111286	0.94	1,538	12.71
F113245	0.77	1,536	13.79
F107071	0.43	1,533	15.02
F105909	0.70	1,533	15.27
F114149	0.80	1,508	15.57
F113493	0.22	1,499	17.03
F112151	0.22	1,526	17.90
F104513	0.99	1,524	18.24
F109151	0.32	1,500	19.27
F111727	2.11	1,523	19.86
F102869	0.00	1,523	20.12
F101771	0.00	1,521	20.70
V102853	1.48	1,519	20.86
F115032	0.57	1,519	21.76
FH11625	0.00	1,518	22.22
F101723	2.21	1,517	22.74
F113961	1.90	1,510	23.87
V108930	0.52	1,507	26.29
F112152	1.57	1,506	26.73
F105238	0.54	1,478	27.05
F115030	1.08	1,505	27.24
V108568	0.51	1,505	27.24
F116050	0.79	1,476	27.29
FH10826	0.00	1,624	28.74
F105981	0.65	1,510	28.74
FH02787	0.00	1,584	28.98
F115094	0.00	1,538	29.35
F103824	0.20	1,621	30.19
F105494	0.07	1,487	30.24
F112758	0.22	1,489	30.33
F105891	1.08	1,497	30.72
F105890	0.93	1,496	30.87
F116370	0.22	1,488	31.08
V111367	0.26	1,619	31.14
V100450	8.14	1,579	31.32
F101473	1.27	1,495	31.52
F114154	0.07	1,618	31.56
F114597	0.75	1,485	32.10
J1726	0.07	1,577	32.12
F112927	0.22	1,495	32.37
F115028	2.50	1,492	32.68
F108455	0.36	1,483	33.19
F108454	0.55	1,483	33.19
F114401	0.22	1,492	33.19
F113921	0.88	1,462	33.60
F115178	0.07	1,448	33.94
F106265	1.36	1,491	34.17
F113920	0.15	1,461	34.30
F101830	2.98	1,489	34.45
F111729	0.76	1,489	34.46
F101948	1.71	1,482	34.51
J842	0.22	1,488	34.75
F105971	0.44	1,481	34.91
F101749	0.93	1,487	35.20
F101952	1.93	1,480	35.54
F117327	0.00	1,484	35.61

ID	Demand (gpm)	Elevation (ft)	Pressure (psi)
F116394	0.00	1,483	35.71
F112767	2.70	1,483	35.71
F117111	0.00	1,484	35.74
F117410	0.00	1,483	35.75
F117931	0.00	1,483	35.77
F102901	1.71	1,478	36.00
F101768	0.37	1,484	36.04
FH14189	0.00	1,483	36.10
F105578	2.06	1,472	36.10
F101204	0.35	1,476	36.12
F101271	1.67	1,477	36.18
F110926	0.77	1,484	36.23
F110278	1.11	1,484	36.24
F102036	0.52	1,477	36.27
J1760	0.97	1,483	36.50
F101501	0.37	1,483	36.57
F113609	0.49	1,475	36.68
F113310	0.30	1,471	36.71
F105725	0.78	1,487	36.72
F101517	1.31	1,483	36.78
F117326	0.00	1,481	36.80
F113981	0.00	1,481	36.92
F115093	0.00	1,522	37.14
F104655	2.24	1,476	37.14
F102591	0.43	1,476	37.23
F114393	0.00	1,482	37.26
F101953	2.13	1,475	37.41
F107393	0.98	1,485	37.62
V105592	0.23	1,485	37.69
V106606	1.03	1,483	37.77
F101506	1.92	1,480	37.81
F101750	0.74	1,481	37.82
F101956	0.93	1,474	37.92
F118113	0.32	1,481	38.08
F118120	0.00	1,478	38.11
F104656	0.22	1,474	38.22
F118196	1.53	1,479	38.34
J2276	1.02	1,473	38.43
F101954	1.27	1,473	38.57
F118021	0.07	1,479	38.69
F117109	0.00	1,477	38.73
F108543	0.55	1,481	38.81
F116560	0.00	1,476	38.81
F101813	0.00	1,476	38.92
F101747	1.49	1,478	38.95
V103604	0.62	1,482	38.97
F104664	1.25	1,472	39.06
F108544	0.07	1,480	39.08
F101484	0.30	1,478	39.10
F115872	0.00	1,476	39.13
F114158	0.07	1,454	39.14
F113101	1.99	1,476	39.17
F105669	0.22	1,471	39.22
FH11511	0.00	1,477	39.26
J2126	0.00	1,475	39.36
J94	1.16	1,478	39.37
F108264	0.76	1,474	39.49
F114110	0.20	1,565	39.57
F105987	2.83	1,718	39.61

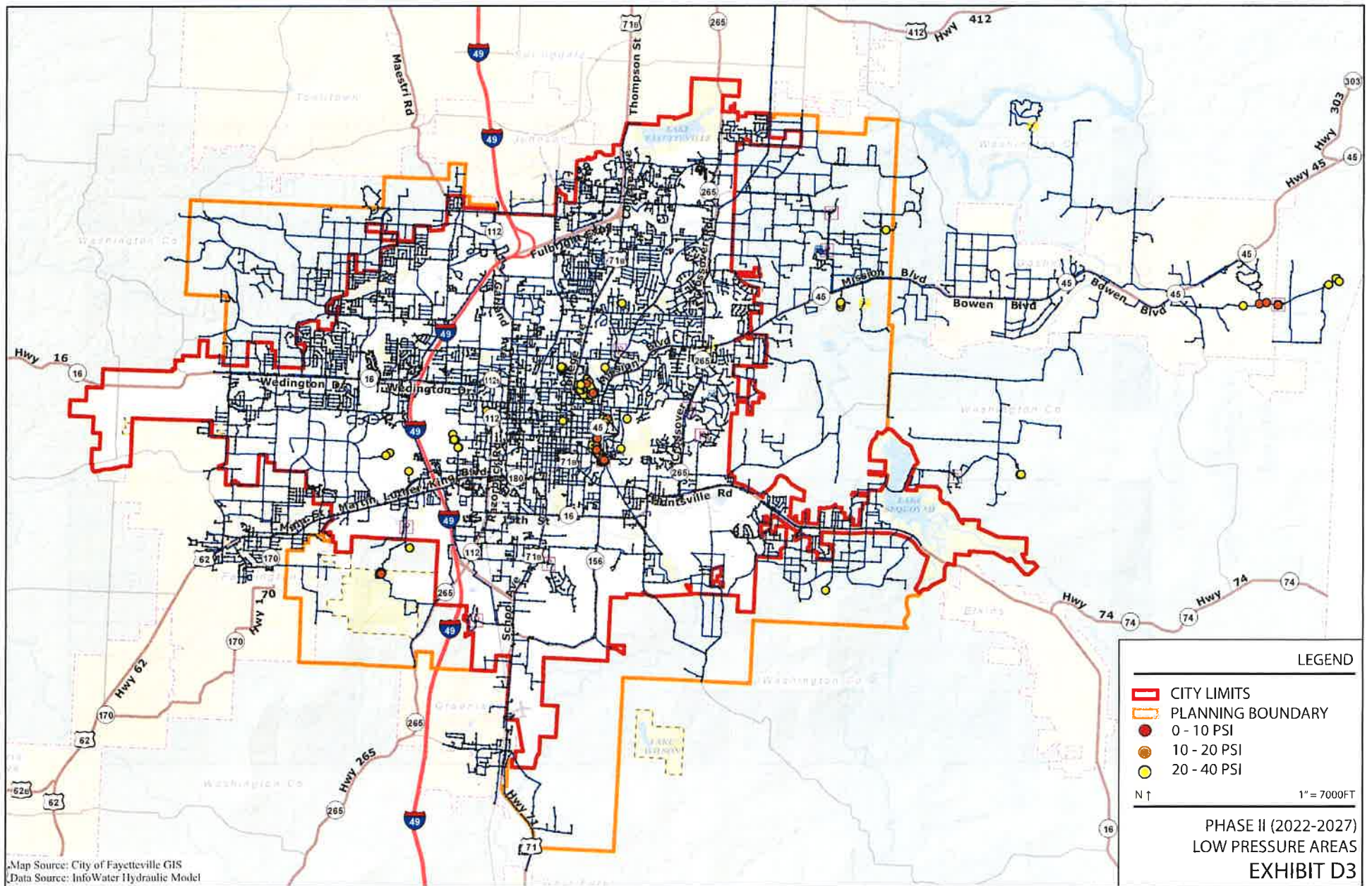


TABLE D3

Phase II Low Pressure Analysis Results
2022 - 2027

Fayetteville Water Master Plan

ID	Demand (gpm)	Elevation (ft)	Pressure (psi)
F113493	0.26	1,499	10.46
F116411	1.31	1,540	11.55
F111283	0.40	1,539	11.64
F111287	0.44	1,538	11.84
F111286	1.11	1,538	11.84
F113245	0.92	1,536	12.92
F107071	0.53	1,533	14.17
F105909	0.84	1,533	14.55
F114149	0.92	1,508	15.60
F112151	0.30	1,526	17.44
F104513	1.16	1,524	17.55
F109151	0.38	1,500	19.29
F111727	2.52	1,523	19.33
F102869	0.00	1,523	19.56
F101771	0.00	1,521	20.15
V102853	1.81	1,519	20.24
F116050	0.90	1,476	20.72
F115032	0.64	1,519	21.20
FH11625	0.00	1,518	21.66
F101723	2.48	1,517	22.18
F113961	2.18	1,510	23.08
F115178	0.10	1,448	24.59
F105238	0.62	1,478	25.33
V108930	0.63	1,507	25.53
F112152	1.91	1,506	26.20
V108568	0.62	1,505	26.44
F115030	1.36	1,505	26.66
FH02787	0.00	1,584	26.76
FH10826	0.00	1,624	28.22
F105494	0.10	1,487	28.70
V100450	9.16	1,579	29.11
F112758	0.30	1,489	29.22
F105981	0.75	1,510	29.46
F103824	0.24	1,621	29.66
J1726	0.10	1,577	29.90
F116370	0.30	1,488	29.97
F105891	1.36	1,497	30.17
F105890	1.19	1,496	30.32
F101473	1.48	1,495	30.59
V111367	0.30	1,619	30.62
F114597	0.89	1,485	30.93
F114154	0.10	1,618	31.03
F113921	1.01	1,462	31.88
F108454	0.67	1,483	32.04
F108455	0.45	1,483	32.04
F115028	2.96	1,492	32.05
F114401	0.30	1,492	32.45
F113920	0.19	1,461	32.58
F101948	1.97	1,482	33.45
F112927	0.30	1,495	33.55
F105971	0.54	1,481	33.86
F101830	3.50	1,489	33.89
F111729	1.00	1,489	33.90
F105578	2.20	1,472	34.36
F101749	1.09	1,487	34.47
F101952	2.22	1,480	34.48
F106265	1.53	1,491	34.61
F112767	3.18	1,483	34.81
J842	0.30	1,488	34.81
F102901	1.97	1,478	34.93
F117327	0.00	1,484	34.95

ID	Demand (gpm)	Elevation (ft)	Pressure (psi)
F101204	0.44	1,476	34.98
F113310	0.35	1,471	34.98
F116394	0.00	1,483	35.04
F101271	1.93	1,477	35.06
F117410	0.00	1,483	35.08
F117931	0.00	1,483	35.11
F102036	0.63	1,477	35.14
F117111	0.00	1,484	35.26
FH14189	0.00	1,483	35.43
F110926	0.92	1,484	35.45
F113609	0.60	1,475	35.53
F110278	1.40	1,484	35.60
J1760	1.09	1,483	35.64
F101768	0.47	1,484	35.67
F101501	0.47	1,483	35.70
F101517	1.51	1,483	36.00
F104655	2.57	1,476	36.10
F117326	0.00	1,481	36.14
F102591	0.53	1,476	36.19
F113981	0.00	1,481	36.25
F101953	2.44	1,475	36.34
F114393	0.00	1,482	36.43
F101956	1.09	1,474	36.88
F101506	2.21	1,480	36.94
F101750	0.88	1,481	37.10
F104656	0.30	1,474	37.18
J2276	1.20	1,473	37.37
F118120	0.00	1,478	37.45
F101954	1.48	1,473	37.51
F105725	0.93	1,487	37.66
F118113	0.38	1,481	37.93
F104664	1.45	1,472	38.02
F116560	0.00	1,476	38.14
F105669	0.30	1,471	38.16
F101747	1.72	1,478	38.21
F101813	0.00	1,476	38.26
F117109	0.00	1,477	38.26
F114110	0.24	1,565	38.28
V106606	1.17	1,483	38.28
F101484	0.38	1,478	38.35
FH11511	0.00	1,477	38.39
F118196	1.77	1,479	38.45
F115872	0.00	1,476	38.47
F118021	0.10	1,479	38.55
F107393	1.14	1,485	38.60
V105592	0.31	1,485	38.68
J2126	0.00	1,475	38.70
F113101	2.23	1,476	38.70
F108264	1.00	1,474	38.92
F114158	0.10	1,454	39.16
J94	1.35	1,478	39.25
F108543	0.64	1,481	39.32
F108263	0.00	1,474	39.33
V110649	0.48	1,562	39.39
F104663	0.58	1,469	39.40
F108544	0.10	1,480	39.44
F113611	0.44	1,466	39.79
F105987	3.23	1,718	39.87
F101917	0.00	1,472	39.88
F117346	0.58	1,476	39.89

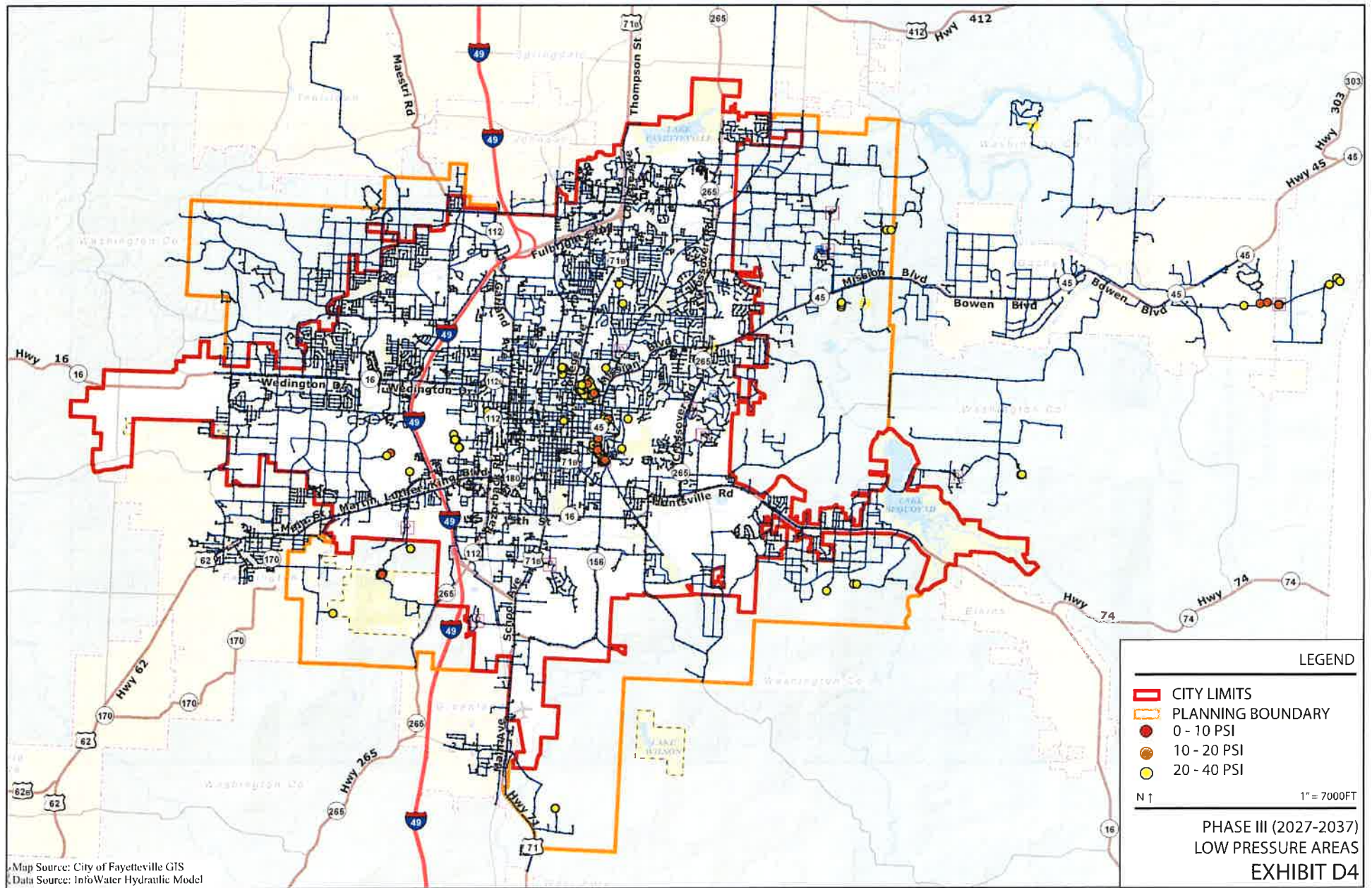


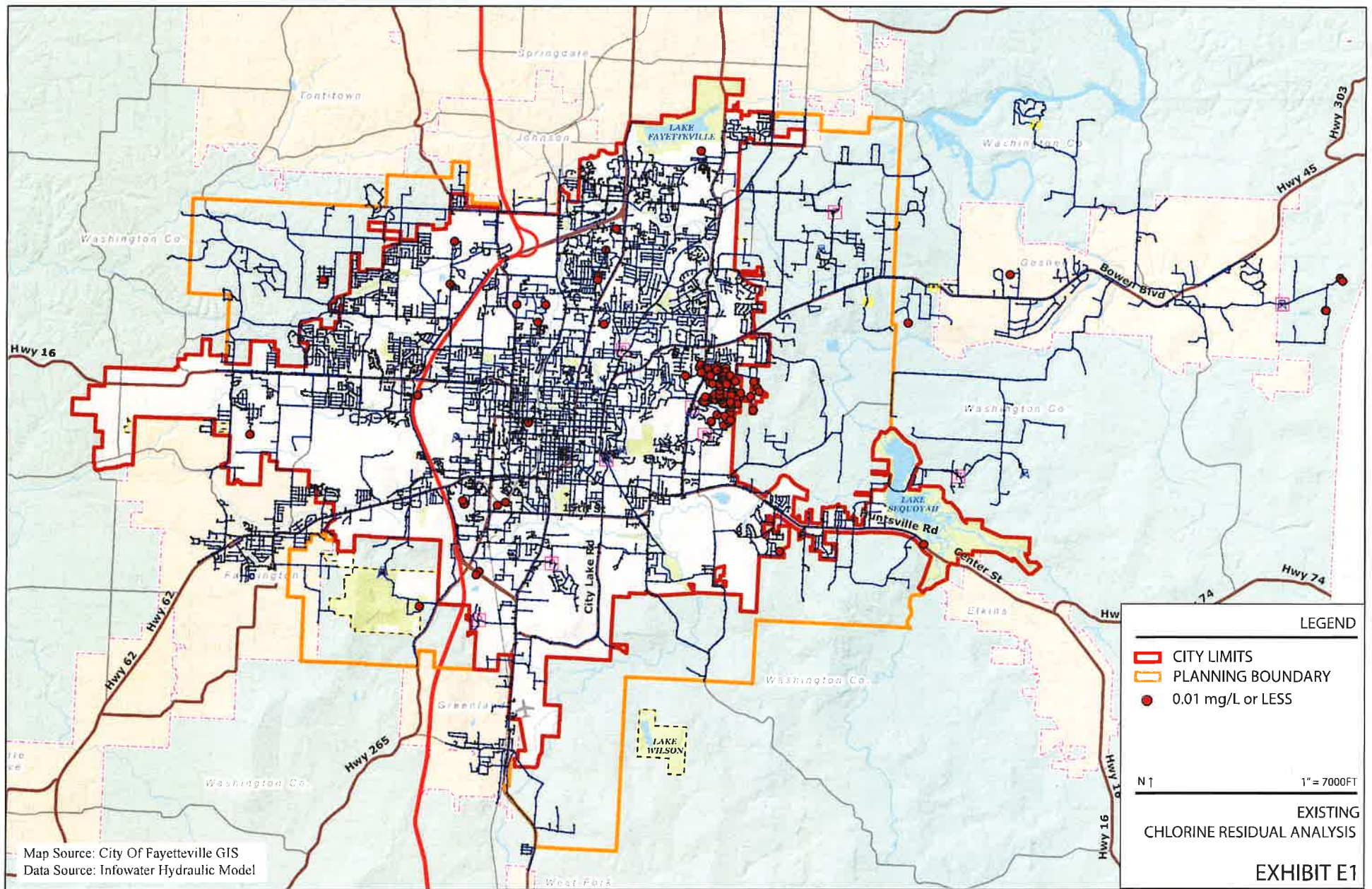
TABLE D4

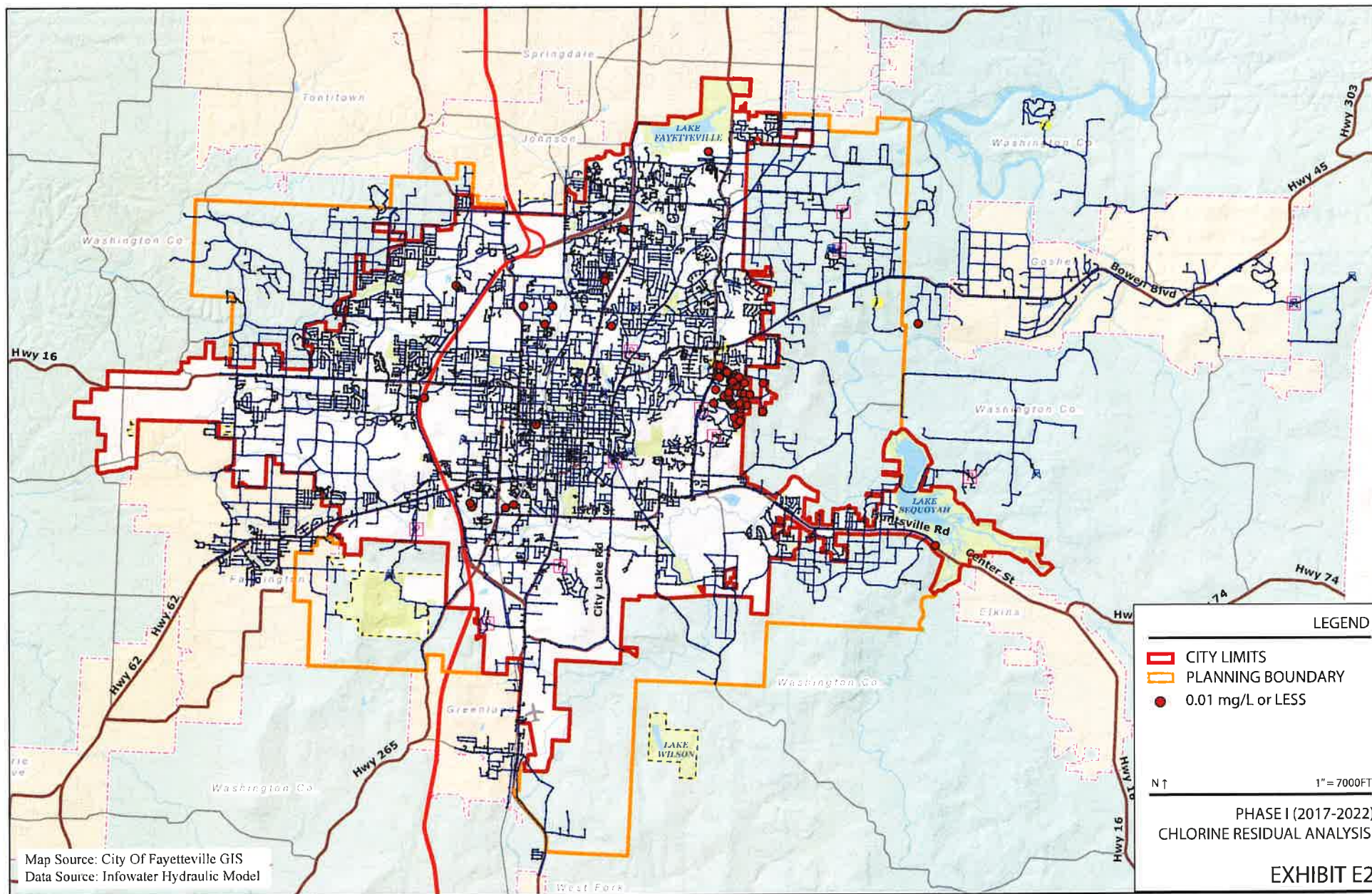
**Phase III Low Pressure Analysis Results
2027 - 2037**

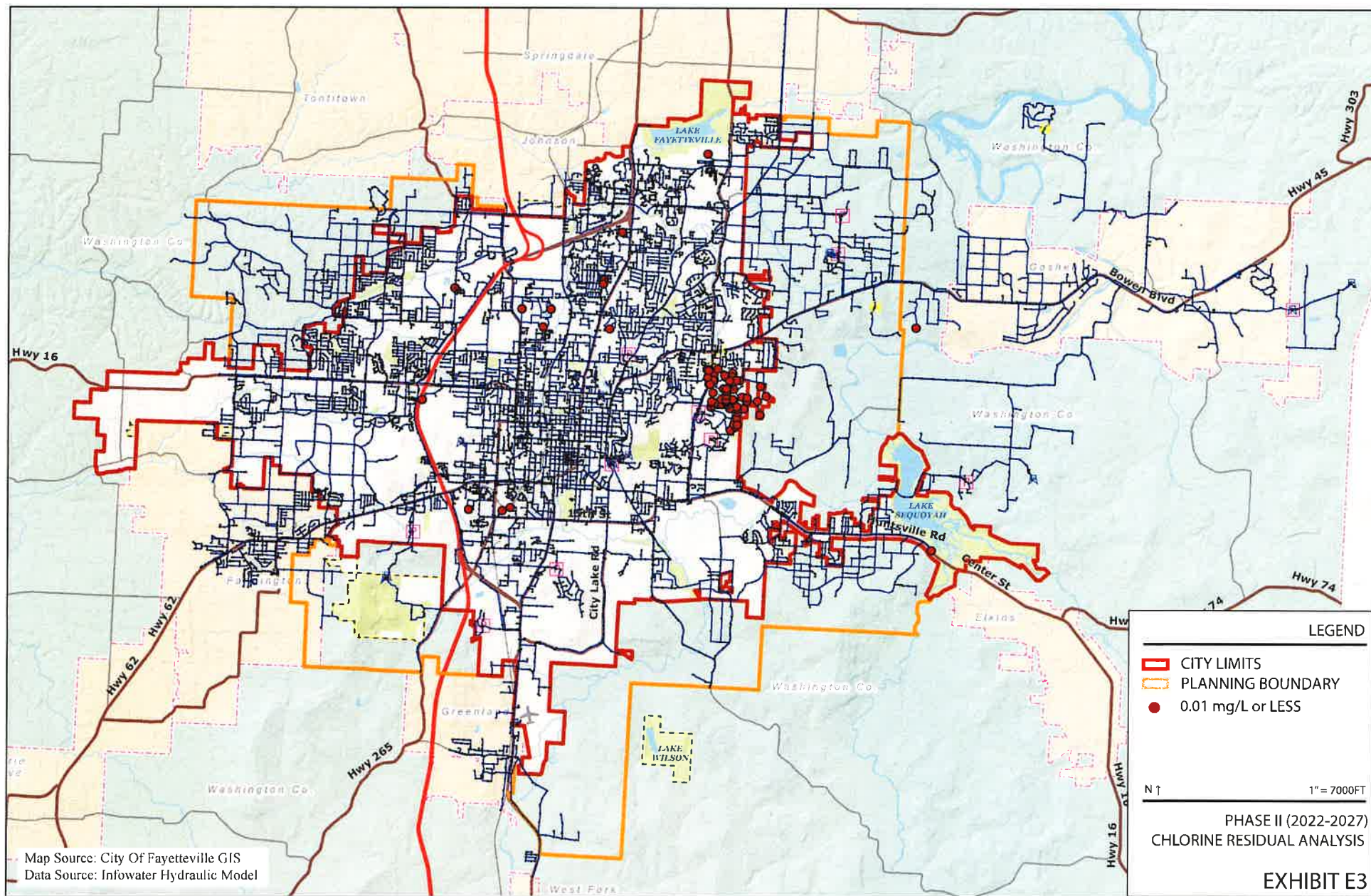
Fayetteville Water Master Plan

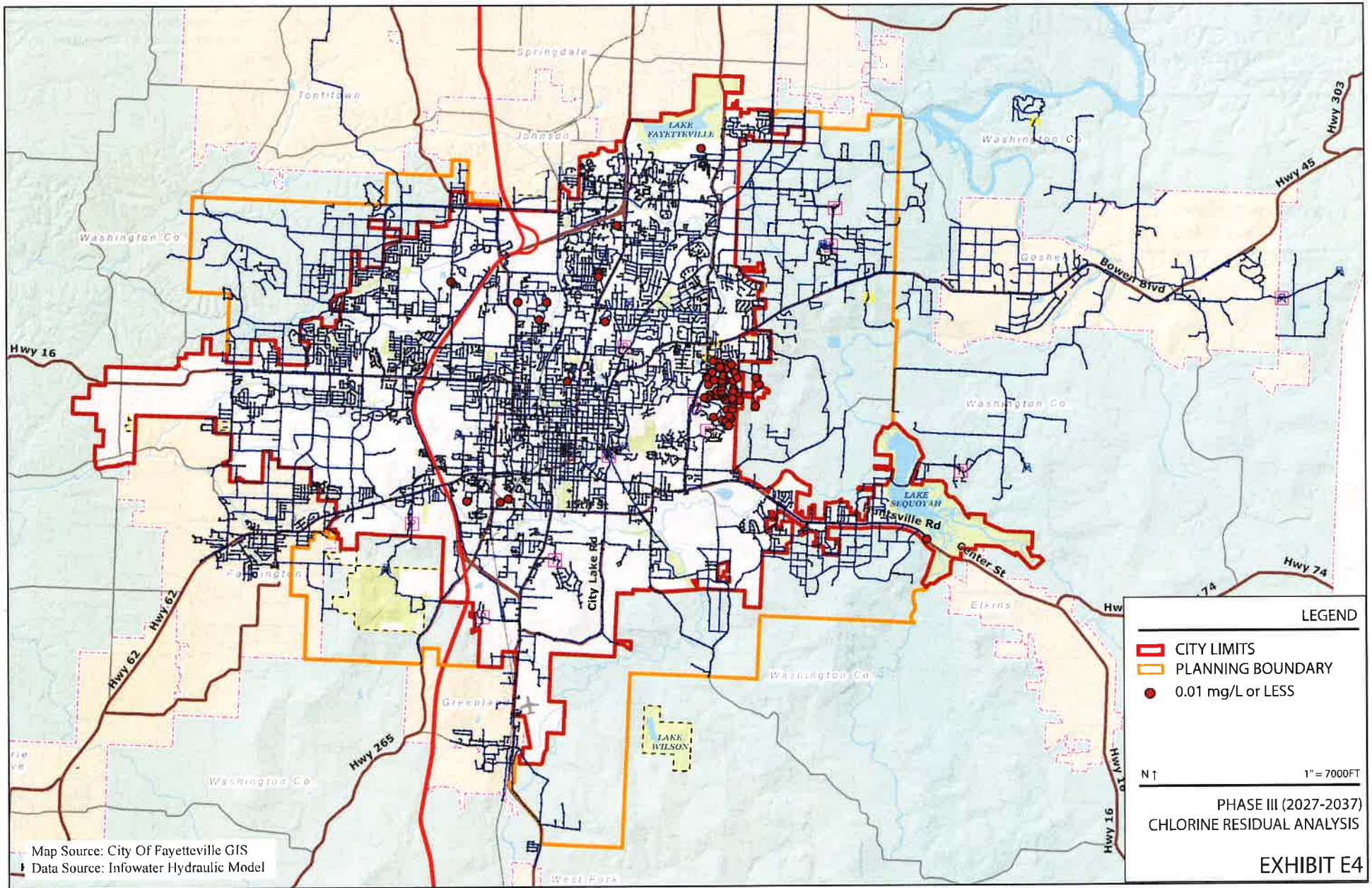
ID	Demand (gpm)	Elevation (ft)	Pressure (psi)
F113493	0.30	1,499	7.37
F116411	1.39	1,540	12.69
F111283	0.51	1,539	13.16
F111286	1.19	1,538	13.36
F111287	0.54	1,538	13.36
F113245	1.01	1,536	14.43
F114149	0.93	1,508	15.40
F107071	0.63	1,533	15.67
F105909	0.93	1,533	15.88
F116050	0.92	1,476	17.63
F115178	0.13	1,448	18.01
F105238	0.65	1,478	18.20
F104513	1.24	1,524	18.60
F112151	0.41	1,526	18.61
F109151	0.41	1,500	19.20
F111727	2.79	1,523	20.56
F102869	0.00	1,523	20.70
F101771	0.00	1,521	21.33
V102853	2.09	1,519	21.42
F115032	0.63	1,519	22.36
FH11625	0.00	1,518	22.84
F101723	2.43	1,517	23.36
FH02787	0.00	1,584	23.57
F113961	2.24	1,510	24.11
F115094	0.00	1,538	24.73
F113921	1.02	1,462	24.92
F113920	0.22	1,461	25.62
V100450	8.98	1,579	25.91
J1726	0.13	1,577	26.71
V108930	0.73	1,507	26.91
FH10826	0.00	1,624	27.36
F112152	2.19	1,506	27.41
F105981	0.77	1,510	27.58
V108568	0.72	1,505	27.86
F115030	1.66	1,505	27.88
F103824	0.27	1,621	28.81
V111367	0.33	1,619	29.76
F114154	0.13	1,618	30.24
F105891	1.66	1,497	31.42
F105494	0.13	1,487	31.50
F105890	1.49	1,496	31.57
F101473	1.56	1,495	32.19
F115093	0.00	1,522	32.51
F106265	1.54	1,491	32.96
F112927	0.41	1,495	33.09
F115028	3.22	1,492	33.23
F112758	0.41	1,489	33.25
F113919	0.55	1,443	33.53
F114401	0.41	1,492	33.80
F116370	0.41	1,488	33.99
F114597	0.98	1,485	34.16
F101830	3.74	1,489	35.13
F111729	1.31	1,489	35.14
F105578	2.25	1,472	35.27
F108455	0.56	1,483	35.37
F108454	0.77	1,483	35.37
F101948	2.03	1,482	35.57
J842	0.41	1,488	35.59
F101749	1.18	1,487	35.81
F113310	0.38	1,471	35.89
F105971	0.64	1,481	35.97

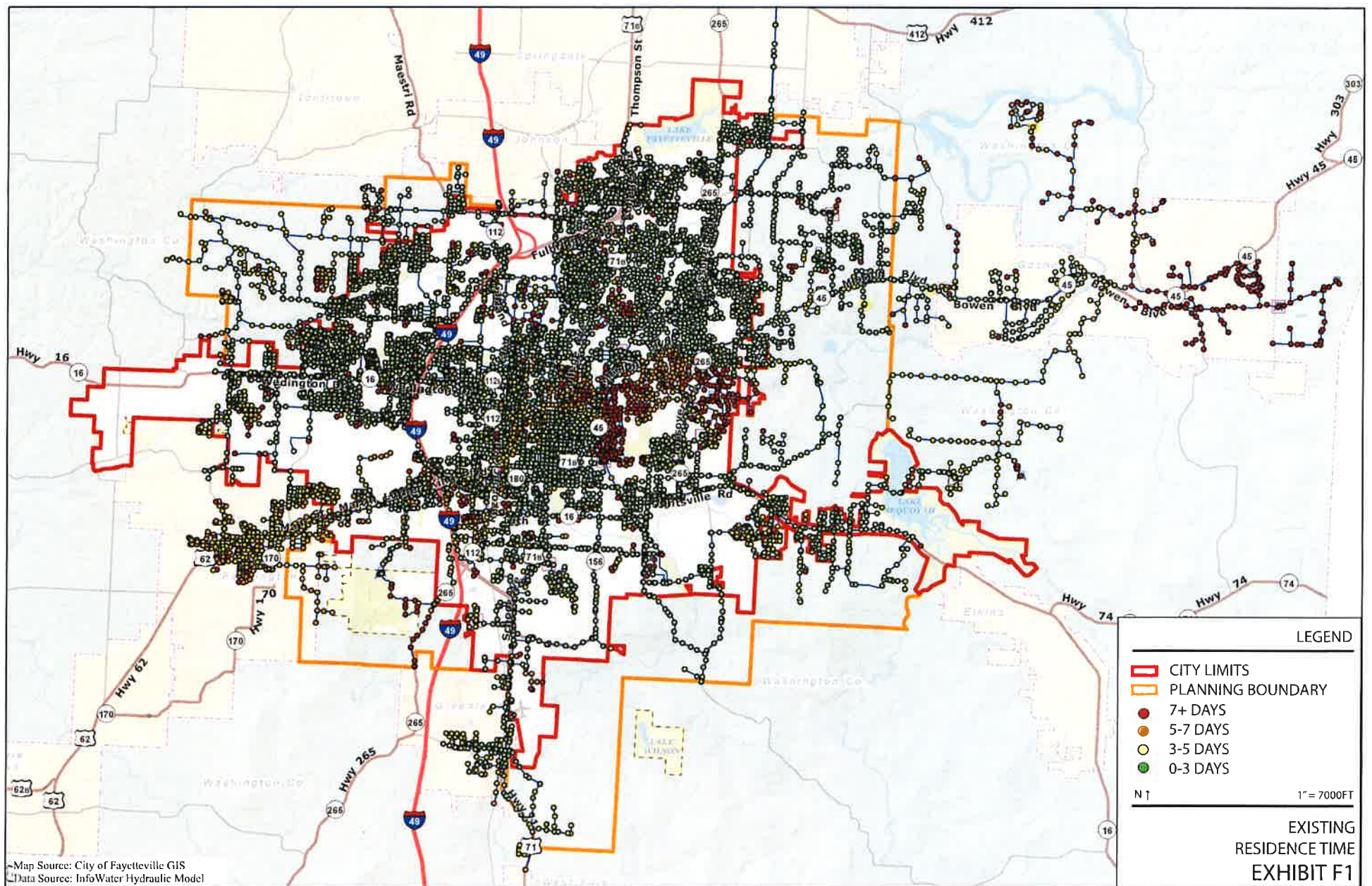
ID	Demand (gpm)	Elevation (ft)	Pressure (psi)
F117050	0.13	1,573	36.24
F118113	0.41	1,481	36.24
F117327	0.00	1,484	36.33
F112767	3.43	1,483	36.35
F116394	0.00	1,483	36.43
F117410	0.00	1,483	36.47
F117931	0.00	1,483	36.49
F105725	1.02	1,487	36.55
F117111	0.00	1,484	36.62
V106606	1.18	1,483	36.63
F101952	2.28	1,480	36.66
F101768	0.57	1,484	36.79
FH14189	0.00	1,483	36.82
F114156	15.53	1,595	36.83
F110926	1.01	1,484	36.85
F118021	0.13	1,479	36.86
F110278	1.69	1,484	36.89
J1760	1.06	1,483	37.14
F102901	2.03	1,478	37.16
F101501	0.57	1,483	37.21
F117026	0.00	1,507	37.30
F101517	1.59	1,483	37.40
F107393	1.23	1,485	37.41
V105592	0.42	1,485	37.45
F117326	0.00	1,481	37.52
F113981	0.00	1,481	37.64
F108543	0.66	1,481	37.66
F108544	0.13	1,480	37.77
F101271	1.99	1,477	37.78
F102036	0.73	1,477	37.83
F114393	0.00	1,482	37.90
F104655	2.62	1,476	38.20
F117346	0.61	1,476	38.20
F102591	0.63	1,476	38.28
F101204	0.54	1,476	38.31
F101750	0.97	1,481	38.42
F101506	2.27	1,480	38.45
V107887	0.80	1,430	38.53
F101953	2.49	1,475	38.53
V103604	0.84	1,482	38.61
F118120	0.00	1,478	38.83
F113609	0.69	1,475	38.86
FH10236	0.00	1,549	38.94
F101956	1.18	1,474	38.97
F114110	0.27	1,565	39.01
F106758	2.93	1,549	39.13
F118196	1.84	1,479	39.18
F104656	0.41	1,474	39.28
F114158	0.13	1,454	39.32
F106264	0.13	1,476	39.38
F105987	3.27	1,718	39.52
F116560	0.00	1,476	39.53
F101747	1.79	1,478	39.56
J2276	1.28	1,473	39.59
F117109	0.00	1,477	39.63
F101813	0.00	1,476	39.64
F101484	0.49	1,478	39.71
F101954	1.56	1,473	39.73
F115872	0.00	1,476	39.85
FH11511	0.00	1,477	39.90
F106407	0.41	1,529	39.96

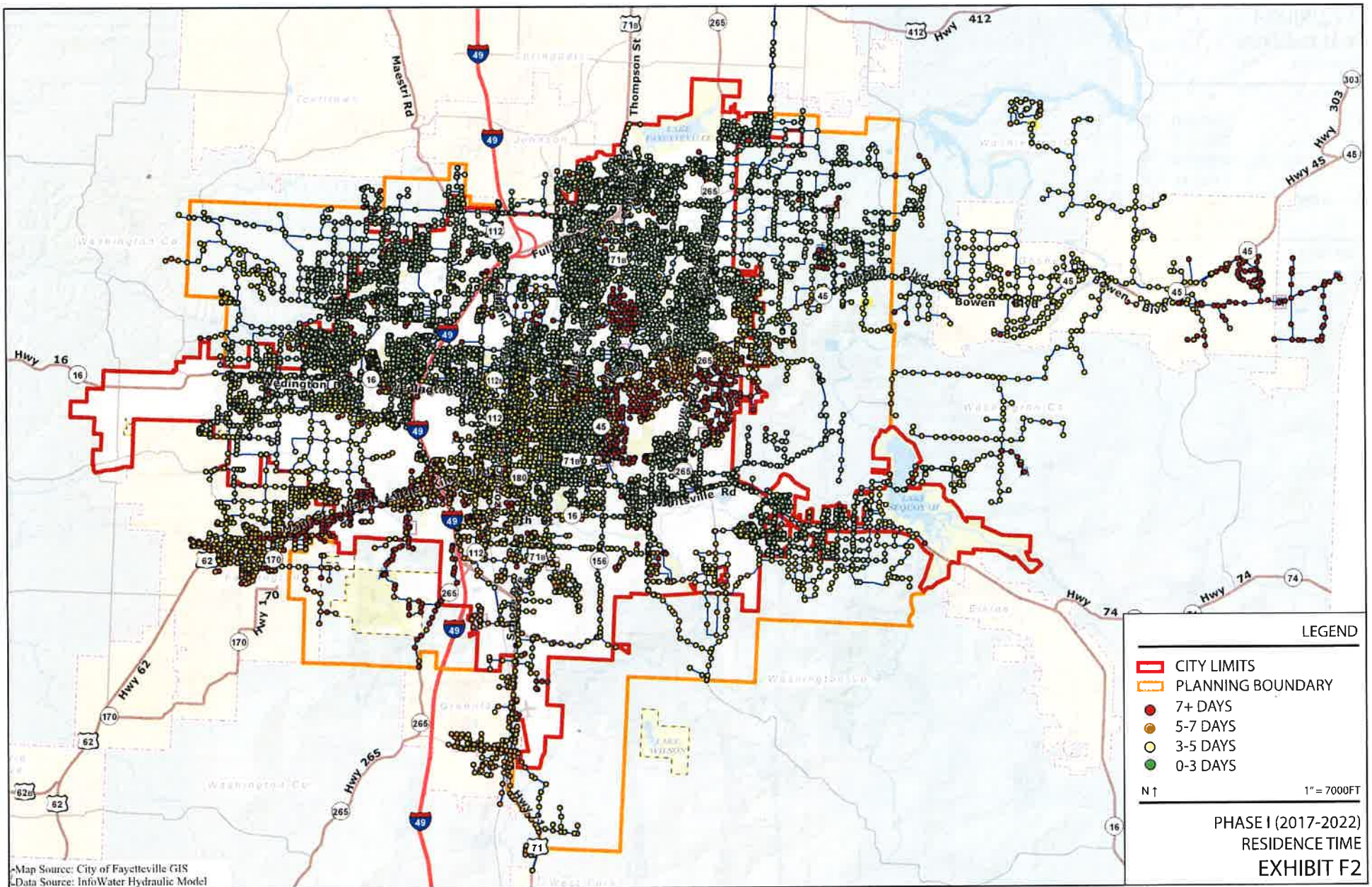


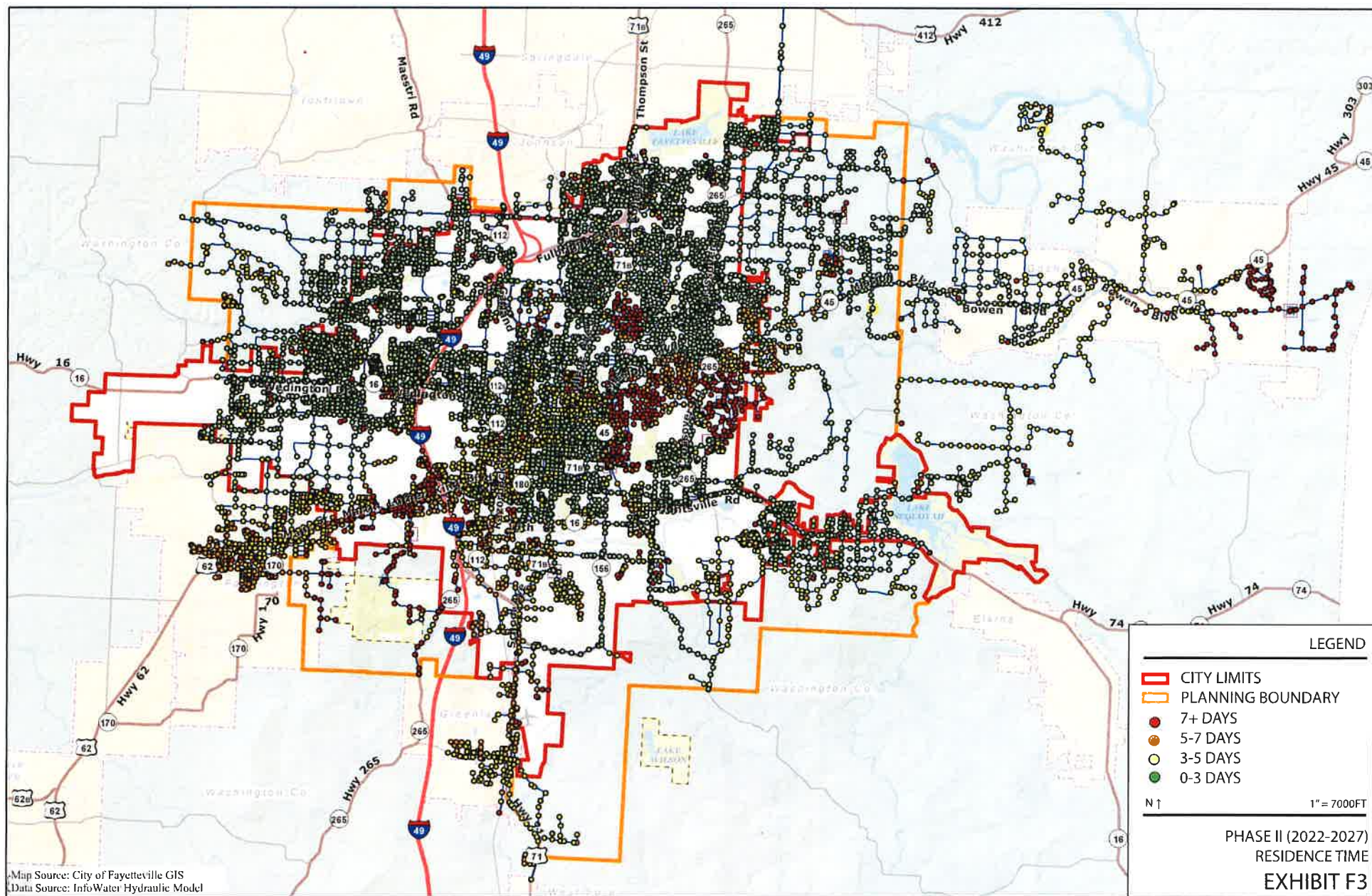












OPINION OF PROBABLE COSTS
FAYETTEVILLE MASTER PLAN
EAST FAYETTEVILLE IMPROVEMENTS

DESCRIPTION	QUANTITY	UNIT	INSTALLATION & MATERIALS	CONSTRUCTION TOTAL COST
Line EF-1 (N. Gulley Rd. to Proposed Tank & Pump Station)				
18" DIP	3,800	LF	\$ 110.00	\$ 418,000.00
Tie at North End	1	LS	\$ 25,000.00	\$ 25,000.00
Tie at Proposed Tank & Pump Station	2	LS	\$ 3,000.00	\$ 6,000.00
Fittings	3,000	LBS	\$ 8.00	\$ 24,000.00
Fire Hydrant Assemblies	3	EA	\$ 4,000.00	\$ 12,000.00
18" Butterfly Valve	2	EA	\$ 6,000.00	\$ 12,000.00
N Gully Rd Bore	1	LS	\$ 27,000.00	\$ 27,000.00
Asphalt/Concrete Repair	220	LF	\$ 50.00	\$ 11,000.00
Gravel Repair	100	LF	\$ 25.00	\$ 2,500.00
Trench Safety System	1	LS	\$ 3,000.00	\$ 3,000.00
Erosion Control System	1	LS	\$ 3,000.00	\$ 3,000.00
Testing, Disinfection, Dechlorination	1	LS	\$ 3,500.00	\$ 3,500.00
Subtotal				\$ 547,000.00
Line EF-2 (Proposed Tank to Hwy. 45)				
18" DIP	4,600	LF	\$ 110.00	\$ 506,000.00
Tie at Tank	1	LS	\$ 3,000.00	\$ 3,000.00
Tie South of Hwy 45	1	LS	\$ 10,000.00	\$ 10,000.00
Fittings	3,500	LBS	\$ 8.00	\$ 28,000.00
Fire Hydrant Assemblies	2	EA	\$ 4,000.00	\$ 8,000.00
18" Butterfly Valve	2	EA	\$ 6,000.00	\$ 12,000.00
Mission Blvd Bore	1	LS	\$ 50,000.00	\$ 50,000.00
Asphalt/Concrete Repair	200	LF	\$ 50.00	\$ 10,000.00
Gravel Repair	50	LF	\$ 25.00	\$ 1,250.00
Trench Safety System	1	LS	\$ 4,000.00	\$ 4,000.00
Erosion Control System	1	LS	\$ 4,000.00	\$ 4,000.00
Testing, Disinfection, Dechlorination	1	LS	\$ 4,000.00	\$ 4,000.00
8" Tie at Chapel View Drive	1	LS	\$ 17,000.00	\$ 17,000.00
Subtotal				\$ 657,250.00
Line EF-3 (Saddleridge-Drexel-Lamar Pettus Dr.)				
8" PVC	3,030	LF	\$ 30.00	\$ 90,900.00
Ties to Existing Distribution System	5	EA	\$ 3,000.00	\$ 15,000.00
Fire Hydrant Assemblies	3	EA	\$ 4,000.00	\$ 12,000.00
Gate Valve	4	EA	\$ 1,000.00	\$ 4,000.00
Trench Safety System	1	LS	\$ 1,500.00	\$ 1,500.00
Erosion Control System	1	LS	\$ 1,000.00	\$ 1,000.00
Testing, Disinfection, Dechlorination	1	LS	\$ 2,000.00	\$ 2,000.00
Subtotal				\$ 126,400.00
Other Improvements				
0.75-MG Elevated Tank	1	LS	\$ 2,010,000.00	\$ 2,010,000.00
Pump Station	1	LS	\$ 450,000.00	\$ 450,000.00
Altitude Valve & Vault (Goshen-E. Paul Pray Dr.)	1	LS	\$ 70,000.00	\$ 70,000.00
Subtotal				\$ 2,530,000.00
TOTAL COST				\$ 3,860,650.00

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**OPINION OF PROBABLE COSTS
FAYETTEVILLE MASTER PLAN**

BENSON MOUNTAIN PRESSURE PLANE IMPROVEMENTS

Line B-1

Fire Tower Spur S Road

DESCRIPTION	QUANTITY	UNIT	INSTALLATION & MATERIALS	CONSTRUCTION TOTAL COST
4" PVC	2,200	LF	\$ 10.00	\$ 22,000.00
Ties to Existing Distribution System	2	EA	\$ 2,000.00	\$ 4,000.00
Trench Safety System	1	LS	\$ 350.00	\$ 350.00
Erosion Control System	1	LS	\$ 350.00	\$ 350.00
Testing, Disinfection, Dechlorination	1	LS	\$ 1,000.00	\$ 1,000.00
Total Cost				\$ 27,700.00

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**OPINION OF PROBABLE COSTS
FAYETTEVILLE MASTER PLAN
PHASE I, LINE I-1**

E. Huntsville Road (Hwy 16) - Crossover Rd to West of Roberts Rd

DESCRIPTION	QUANTITY	UNIT	INSTALLATION & MATERIALS	CONSTRUCTION TOTAL COST
18" DIP	5,300	LF	\$ 110.00	\$ 583,000.00
Tie at Existing 24" Waterline	1	LS	\$ 30,000.00	\$ 30,000.00
Tie at East End	1	LS	\$ 8,000.00	\$ 8,000.00
Tie at Mid-Point w/ Fitting & Valve	1	LS	\$ 10,000.00	\$ 10,000.00
Fittings	4,000	LBS	\$ 8.00	\$ 32,000.00
Fire Hydrant Assemblies	8	EA	\$ 4,000.00	\$ 32,000.00
18" Butterfly Valve	3	EA	\$ 5,000.00	\$ 15,000.00
Air Release Valve	2	EA	\$ 5,000.00	\$ 10,000.00
Highway 265 Bore	1	LS	\$ 55,000.00	\$ 55,000.00
Stone Bridge Rd Bore	1	LS	\$ 30,000.00	\$ 30,000.00
Asphalt/Concrete Repair	250	LF	\$ 50.00	\$ 12,500.00
Gravel Repair	300	LF	\$ 25.00	\$ 7,500.00
Trench Safety System	1	LS	\$ 4,000.00	\$ 4,000.00
Erosion Control System	1	LS	\$ 4,000.00	\$ 4,000.00
Testing, Disinfection, Dechlorination	1	LS	\$ 5,000.00	\$ 5,000.00
Total Cost				\$ 838,000.00

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**OPINION OF PROBABLE COSTS
FAYETTEVILLE MASTER PLAN
PHASE I, LINE I-2a
Fulbright Expressway to Hwy. 71**

DESCRIPTION	QUANTITY	UNIT	INSTALLATION & MATERIALS	CONSTRUCTION TOTAL COST
12" PVC	6,260	LF	\$ 60.00	\$ 375,600.00
Tie at West End	1	LS	\$ 1,000.00	\$ 1,000.00
Tie at Sunrise Rd Crossing	1	LS	\$ 2,000.00	\$ 2,000.00
Tie (East of Hwy 71 at 12" Waterline)	1	LS	\$ 6,000.00	\$ 6,000.00
Fittings	3,000	LBS	\$ 8.00	\$ 24,000.00
Fire Hydrant Assemblies	12	EA	\$ 4,000.00	\$ 48,000.00
12" Butterfly Valve	1	EA	\$ 3,500.00	\$ 3,500.00
Air Release Valve	2	EA	\$ 5,000.00	\$ 10,000.00
Railroad Bore	1	LS	\$ 35,000.00	\$ 35,000.00
Hwy 71B Bore	1	LS	\$ 35,000.00	\$ 35,000.00
Trench Safety System	1	LS	\$ 3,000.00	\$ 3,000.00
Erosion Control System	1	LS	\$ 3,000.00	\$ 3,000.00
Testing, Disinfection, Dechlorination	1	LS	\$ 4,000.00	\$ 4,000.00
Total Cost				\$ 550,100.00

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**OPINION OF PROBABLE COSTS
FAYETTEVILLE MASTER PLAN
PHASE I, LINE I-2b
S. School Street (Hwy. 71)**

DESCRIPTION	QUANTITY	UNIT	INSTALLATION & MATERIALS	CONSTRUCTION TOTAL COST
12" PVC	3,100	LF	\$ 80.00	\$ 248,000.00
Tie at North End	1	LS	\$ 1,000.00	\$ 1,000.00
Tie at South End	1	LS	\$ 8,000.00	\$ 8,000.00
Fittings	2,000	LBS	\$ 8.00	\$ 16,000.00
Fire Hydrant Assemblies	4	EA	\$ 4,000.00	\$ 16,000.00
12" Butterfly Valve	3	EA	\$ 2,500.00	\$ 7,500.00
Air Release Valve	2	EA	\$ 5,000.00	\$ 10,000.00
Asphalt/Concrete Repair	1,000	LF	\$ 50.00	\$ 50,000.00
Gravel Surface Repair	300	LF	\$ 20.00	\$ 6,000.00
Trench Safety System	1	LS	\$ 2,000.00	\$ 2,000.00
Erosion Control System	1	LS	\$ 2,000.00	\$ 2,000.00
Testing, Disinfection, Dechlorination	1	LS	\$ 2,000.00	\$ 2,000.00
Total Cost				\$ 368,500.00

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**OPINION OF PROBABLE COSTS
FAYETTEVILLE MASTER PLAN
PHASE I, LINE I-3
Persimmon Street to Shiloh Drive**

DESCRIPTION	QUANTITY	UNIT	INSTALLATION & MATERIALS	CONSTRUCTION TOTAL COST
12" PVC	200	LF	\$ 40.00	\$ 8,000.00
Ties to Existing Distribution System	2	EA	\$ 5,000.00	\$ 10,000.00
Trench Safety System	1	LS	\$ 300.00	\$ 300.00
Erosion Control System	1	LS	\$ 200.00	\$ 200.00
Testing, Disinfection, Dechlorination	1	LS	\$ 500.00	\$ 500.00
Total Cost				\$ 19,000.00

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**OPINION OF PROBABLE COSTS
FAYETTEVILLE MASTER PLAN
PHASE I, LINE I-4
Vanike Drive to Deane Solomon Road**

DESCRIPTION	QUANTITY	UNIT	INSTALLATION & MATERIALS	CONSTRUCTION TOTAL COST
8" PVC	50	LF	\$ 50.00	\$ 2,500.00
Ties to Existing Distribution System	2	EA	\$ 2,500.00	\$ 5,000.00
Trench Safety System	1	LS	\$ 150.00	\$ 150.00
Erosion Control System	1	LS	\$ 150.00	\$ 150.00
Testing, Disinfection, Dechlorination	1	LS	\$ 400.00	\$ 400.00
Total Cost				\$ 8,200.00

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**OPINION OF PROBABLE COSTS
FAYETTEVILLE MASTER PLAN
PHASE I, LINE I-5
Hunters Ridge to Hwy. 45**

DESCRIPTION	QUANTITY	UNIT	INSTALLATION & MATERIALS	CONSTRUCTION TOTAL COST
8" PVC	420	LF	\$ 50.00	\$ 21,000.00
Ties to Existing Distribution System	2	EA	\$ 2,500.00	\$ 5,000.00
Trench Safety System	1	LS	\$ 200.00	\$ 200.00
Erosion Control System	1	LS	\$ 200.00	\$ 200.00
Testing, Disinfection, Dechlorination	1	LS	\$ 200.00	\$ 200.00
Total Cost				\$ 26,600.00

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**OPINION OF PROBABLE COSTS
FAYETTEVILLE MASTER PLAN
PHASE I, LINE I-6
Victoria Lane to Arthurs Court**

DESCRIPTION	QUANTITY	UNIT	INSTALLATION & MATERIALS	CONSTRUCTION TOTAL COST
8" PVC	460	LF	\$ 50.00	\$ 23,000.00
Ties to Existing Distribution System	2	EA	\$ 2,500.00	\$ 5,000.00
Fire Hydrant Assemblies	1	EA	\$ 4,000.00	\$ 4,000.00
Trench Safety System	1	LS	\$ 400.00	\$ 400.00
Erosion Control System	1	LS	\$ 400.00	\$ 400.00
Testing, Disinfection, Dechlorination	1	LS	\$ 400.00	\$ 400.00
Total Cost				\$ 33,200.00

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**OPINION OF PROBABLE COSTS
FAYETTEVILLE MASTER PLAN
PHASE I, LINE I-7
Intersection of 15th Street and Morningside Drive**

DESCRIPTION	QUANTITY	UNIT	INSTALLATION & MATERIALS	CONSTRUCTION TOTAL COST
12" DIP	25	LF	\$ 50.00	\$ 1,250.00
Ties to Existing Distribution System	2	EA	\$ 4,500.00	\$ 9,000.00
Trench Safety System	1	LS	\$ 50.00	\$ 50.00
Erosion Control System	1	LS	\$ 50.00	\$ 50.00
Testing, Disinfection, Dechlorination	1	LS	\$ 50.00	\$ 50.00
Total Cost				\$ 10,400.00

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**OPINION OF PROBABLE COSTS
FAYETTEVILLE MASTER PLAN
PHASE II, LINE II-1**

E. Huntsville Road (Hwy 16) - West of Roberts Rd to Tallgrass Dr.

DESCRIPTION	QUANTITY	UNIT	INSTALLATION & MATERIALS	CONSTRUCTION TOTAL COST
18" DIP	4,900	LF	\$ 110.00	\$ 539,000.00
Tie at Existing 12" Waterline	1	LS	\$ 12,000.00	\$ 12,000.00
Tie at Tallgrass St	1	LS	\$ 12,000.00	\$ 12,000.00
Tie at Mid-Point w/ Fitting & Valve	1	LS	\$ 10,000.00	\$ 10,000.00
Fittings	4,000	LBS	\$ 8.00	\$ 32,000.00
Fire Hydrant Assemblies	10	EA	\$ 4,000.00	\$ 40,000.00
18" Butterfly Valve	2	EA	\$ 5,000.00	\$ 10,000.00
Air Release Valve	2	EA	\$ 5,000.00	\$ 10,000.00
Highway 16 Bore	1	LS	\$ 55,000.00	\$ 55,000.00
Asphalt/Concrete Repair	250	LF	\$ 50.00	\$ 12,500.00
Gravel Repair	200	LF	\$ 25.00	\$ 5,000.00
Trench Safety System	1	LS	\$ 4,000.00	\$ 4,000.00
Erosion Control System	1	LS	\$ 4,000.00	\$ 4,000.00
Testing, Disinfection, Dechlorination	1	LS	\$ 4,500.00	\$ 4,500.00
Total Cost				\$ 750,000.00

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**OPINION OF PROBABLE COSTS
FAYETTEVILLE WATER MASTER PLAN
PHASE III, LINE III-1
48" BWD West Transmission**

DESCRIPTION	QUANTITY	UNIT	INSTALLATION & MATERIALS	CONSTRUCTION TOTAL COST
48" DIP	57,850	LF	\$ 384.00	\$ 22,214,400.00
Valves	6	EA	\$ 30,000.00	\$ 180,000.00
Ties	3	EA	\$ 140,000.00	\$ 420,000.00
Fittings	500,000	LBS	\$ 5.00	\$ 2,500,000.00
Fire Hydrant Assemblies	4	EA	\$ 5,000.00	\$ 20,000.00
Blow Off Assemblies	37	EA	\$ 5,000.00	\$ 185,000.00
Air Releases	38	EA	\$ 15,000.00	\$ 570,000.00
Highway & Street Bores	1,290	LF	\$ 1,000.00	\$ 1,290,000.00
Creek & Pond Bores	425	LF	\$ 1,000.00	\$ 425,000.00
Asphalt Crossing	1,220	LF	\$ 200.00	\$ 244,000.00
Gravel Crossing	125	LF	\$ 75.00	\$ 9,375.00
Ditch Casing	120	LF	\$ 200.00	\$ 24,000.00
Disinfection	1	LS	\$ 58,000.00	\$ 58,000.00
De-Chlorination	1	LS	\$ 116,000.00	\$ 116,000.00
Erosion Control	1	LS	\$ 116,000.00	\$ 116,000.00
Trench Safety	1	LS	\$ 72,625.00	\$ 72,625.00
Total Cost				\$ 28,444,400.00

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**OPINION OF PROBABLE COSTS
FAYETTEVILLE MASTER PLAN
PHASE III, LINE III-2
E. Huntsville Rd. (Hwy 16) - Tallgrass Dr. to East of Lake Sequoyah Drive**

DESCRIPTION	QUANTITY	UNIT	INSTALLATION & MATERIALS	CONSTRUCTION TOTAL COST
18" DIP	4,500	LF	\$ 110.00	\$ 495,000.00
Tie at Phase II Waterline	1	LS	\$ 2,000.00	\$ 2,000.00
Tie at East End	1	LS	\$ 12,000.00	\$ 12,000.00
Tie Mid-Point w/ Fitting & Valve	1	LS	\$ 10,000.00	\$ 10,000.00
Fittings	4,000	LBS	\$ 8.00	\$ 32,000.00
Fire Hydrant Assemblies	8	EA	\$ 4,000.00	\$ 32,000.00
18" Butterfly Valve	2	EA	\$ 5,000.00	\$ 10,000.00
Air Release Valve	2	EA	\$ 5,000.00	\$ 10,000.00
Asphalt/Concrete Repair	250	LF	\$ 50.00	\$ 12,500.00
Gravel Repair	300	LF	\$ 25.00	\$ 7,500.00
Trench Safety System	1	LS	\$ 4,000.00	\$ 4,000.00
Erosion Control System	1	LS	\$ 4,000.00	\$ 4,000.00
Testing, Disinfection, Dechlorination	1	LS	\$ 4,500.00	\$ 4,500.00
Total Cost				\$ 635,500.00

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**OPINION OF PROBABLE COSTS
FAYETTEVILLE MASTER PLAN**

**TOWNSHIP PRESSURE PLANE IMPROVEMENTS
Line T-1
(Sherwood Lane Vicinity)**

DESCRIPTION	QUANTITY	UNIT	INSTALLATION & MATERIALS	CONSTRUCTION TOTAL COST
8" PVC	400	LF	\$ 35.00	\$ 14,000.00
Tie at Sherwood Lane	1	LS	\$ 4,000.00	\$ 4,000.00
Tie at East End with 6"	1	LS	\$ 3,500.00	\$ 3,500.00
Flushing Station	1	EA	\$ 500.00	\$ 500.00
Trench Safety System	1	LS	\$ 250.00	\$ 250.00
Erosion Control System	1	LS	\$ 250.00	\$ 250.00
Testing, Disinfection, Dechlorination	1	LS	\$ 500.00	\$ 500.00
Total Cost				\$ 23,000.00

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**OPINION OF PROBABLE COSTS
FAYETTEVILLE MASTER PLAN**

**TOWNSHIP PRESSURE PLANE IMPROVEMENTS
Line T-2
(Sherwood Lane to N Emerald Ave.)**

DESCRIPTION	QUANTITY	UNIT	INSTALLATION & MATERIALS	CONSTRUCTION TOTAL COST
8" PVC	570	LF	\$ 35.00	\$ 19,950.00
Tie at N Emerald Ave	1	LS	\$ 4,000.00	\$ 4,000.00
Tie at Sherwood Lane	1	LS	\$ 7,000.00	\$ 7,000.00
Trench Safety System	1	LS	\$ 500.00	\$ 500.00
Erosion Control System	1	LS	\$ 500.00	\$ 500.00
Testing, Disinfection, Dechlorination	1	LS	\$ 750.00	\$ 750.00
Total Cost				\$ 32,700.00

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Project: Fy-363 Fayetteville Water Master Plan

Engineer: McGoodwin, Williams and Yates

Fayetteville System School/Hospital Fire Flow Analysis Calculations

Fire Flow Requirements Source: International Fire Code Appendix B

Fayetteville School System

Root Elementary

- Required Fire Flow = 3,500-gpm @ 3 hours
- Fire Flow w/Sprinkler Reduction of 75% = 875-gpm
- Per IFC code, fire flow not less than 1,500-gpm @ prescribed duration (i.e. 3 hours)

- Available Fire Flow Results:
 - Fire Node ID – F101777 (Mission Blvd.)
 - Flow = 2,305-gpm @ 20-psi

Butterfield Trail Elementary

- Required Fire Flow = 4,250-gpm @ 4 hours
- Fire Flow w/Sprinkler Reduction of 75% = 1,062.50-gpm
- Per IFC code, fire flow not less than 1,500-gpm @ prescribed duration (i.e. 4 hours)

- Available Fire Flow Results:
 - Fire Node ID – FH10048
 - Flow = 6,058-gpm @ 20-psi

 - Fire Node ID – FH02466
 - Flow = 5,829-gpm @ 20-psi

Happy Hollow Elementary

- Required Fire Flow = 4,250-gpm @ 4 hours
- Fire Flow w/Sprinkler Reduction of 75% = 1,062.50-gpm
- Per IFC code, fire flow not less than 1,500-gpm @ prescribed duration (i.e. 4 hours)

- Available Fire Flow Results:
 - Fire Node ID – FH14130
 - Flow = 3,732-gpm @ 20-psi

- Fire Node ID – FH14132
- Flow = 3,864-gpm @ 20-psi
- Fire Node ID – FH14133
- Flow = 4,155-gpm @ 20-psi

Owl Creek Elementary

- Required Fire Flow = 6,000-gpm @ 4 hours
- Fire Flow w/Sprinkler Reduction of 75% = 1,500-gpm
- Per IFC code, fire flow not less than 1,500-gpm @ prescribed duration (i.e. 4 hours)
- Available Fire Flow Results:
 - Fire Node ID – FH03247
 - Flow = 6,316-gpm @ 20-psi
 - Fire Node ID – FH03248
 - Flow = 6,923-gpm @ 20-psi
 - Fire Node ID – FH14662
 - Flow = 13,400-gpm @ 20-psi
- *Fire Flow Results w/maintaining 10-psi at system critical node(s):
 - Fire Node ID – FH03247
 - Flow = 55-gpm
 - Fire Node ID – FH03248
 - Flow = 53-gpm
 - Fire Node ID – FH14662
 - Flow = 57-gpm

***Critical Area – Dinsmore Trail (areas located on 2" waterline)**

Holcomb Elementary

- Required Fire Flow = 3,750-gpm @ 3 hours
- Fire Flow w/Sprinkler Reduction of 75% = 937.50-gpm
- Per IFC code, fire flow not less than 1,500-gpm @ prescribed duration (i.e. 3 hours)
- Available Fire Flow Results:
 - Fire Node ID – FH10273
 - Flow = 4,595-gpm @ 20-psi
 - Fire Node ID – FH02567
 - Flow = 6,462-gpm @ 20-psi

- ***Fire Flow Results w/maintaining 10-psi at system critical node(s):**
 - Fire Node ID – FH10273
 - Flow = 121-gpm
 - Fire Node ID – FH02567
 - Flow = 122-gpm

***Critical Area – Dinsmore Trail (areas located on 2" waterline)**

Washington Elementary

- Required Fire Flow = 3,500-gpm @ 3 hours
- Fire Flow w/Sprinkler Reduction of 75% = 875-gpm
- Per IFC code, fire flow not less than 1,500-gpm @ prescribed duration (i.e. 3 hours)
- Available Fire Flow Results:
 - Fire Node ID – FH11337
 - Flow = 5,952-gpm @ 20-psi
 - Fire Node ID – FH11404
 - Flow = 3,695-gpm @ 20-psi

Asbell Elementary

- Required Fire Flow = 3,750-gpm @ 3 hours
- Fire Flow w/Sprinkler Reduction of 75% = 937.50-gpm
- Per IFC code, fire flow not less than 1,500-gpm @ prescribed duration (i.e. 3 hours)
- Available Fire Flow Results:
 - Fire Node ID – FH02188
 - Flow = 10,290-gpm @ 20-psi
 - Fire Node ID – FH11284
 - Flow = 8,792-gpm @ 20-psi

Leverett Elementary

- Required Fire Flow = 2,750-gpm @ 2 hours
- Fire Flow w/Sprinkler Reduction of 75% = 687.50-gpm
- Per IFC code, fire flow not less than 1,500-gpm @ prescribed duration (i.e. 2 hours)
- Available Fire Flow Results:
 - Fire Node ID – FH11739
 - Flow = 9,623-gpm @ 20-psi

McNair Middle School or Vandergrift Elementary

- Required Fire Flow = 4,000-gpm @ 4 hours
- Fire Flow w/Sprinkler Reduction of 75% = 1,000-gpm
- Per IFC code, fire flow not less than 1,500-gpm @ prescribed duration (i.e. 4 hours)

- Available Fire Flow Results:
 - Fire Node ID – FH12101
 - Flow = 2,205-gpm @ 20-psi

 - Fire Node ID – FH12062
 - Flow = 1,658-gpm @ 20-psi

Holt Middle School

- Required Fire Flow = 5,000-gpm @ 4 hours
- Fire Flow w/Sprinkler Reduction of 75% = 1,250-gpm
- Per IFC code, fire flow not less than 1,500-gpm @ prescribed duration (i.e. 4 hours)

- Available Fire Flow Results:
 - Fire Node ID – FH12049
 - Flow = 4,308-gpm @ 20-psi

 - Fire Node ID – FH12048
 - Flow = 5,873-gpm @ 20-psi

- *Fire Flow Results w/maintaining 10-psi at system critical node(s):
 - Fire Node ID – FH12049
 - Flow = 120-gpm

 - Fire Node ID – FH12048
 - Flow = 120-gpm

***Critical Area – Dinsmore Trail (areas located on 2" waterline)**

Woodland Jr. High

- Required Fire Flow = 4,750-gpm @ 4 hours
- Fire Flow w/Sprinkler Reduction of 75% = 1,187-gpm
- Per IFC code, fire flow not less than 1,500-gpm @ prescribed duration (i.e. 4 hours)

- Available Fire Flow Results:
 - Fire Node ID – FH11955
 - Flow = 2,640-gpm @ 20-psi

 - Fire Node ID – FH11919
 - Flow = 1,726-gpm @ 20-psi

Ramay Jr. High

- Required Fire Flow = 6,000-gpm @ 4 hours
- Fire Flow w/Sprinkler Reduction of 75% = 1,500-gpm
- Per IFC code, fire flow not less than 1,500-gpm @ prescribed duration (i.e. 4 hours)

- Available Fire Flow Results:
 - Fire Node ID – FH11319
 - Flow = 68,307-gpm @ 20-psi

 - Fire Node ID – FH11321
 - Flow = 79,023-gpm @ 20-psi

 - Fire Node ID – FH11322
 - Flow = 74,438-gpm @ 20-psi

- *Fire Flow Results w/maintaining 10-psi at system critical node(s):
 - Fire Node ID – FH11319
 - Flow = 2,076-gpm

 - Fire Node ID – FH11321
 - Flow = 1,882-gpm

 - Fire Node ID – FH11322
 - Flow = 1,778-gpm

***No critical areas. Due to extremely large available flows, additional analysis performed to verify remaining system pressures were adequate during fire flow.**

Fayetteville High

- Required Fire Flow = 6,000-gpm @ 4 hours
- Fire Flow w/Sprinkler Reduction of 75% = 1,500-gpm
- Per IFC code, fire flow not less than 1,500-gpm @ prescribed duration (i.e. 4 hours)

- Available Fire Flow Results:
 - Fire Node ID – FH12319
 - Flow = 4,305-gpm @ 20-psi

 - Fire Node ID – FH14350
 - Flow = 15,205-gpm @ 20-psi

 - Fire Node ID – FH14351
 - Flow = 19,836-gpm @ 20-psi

- ***Fire Flow Results w/maintaining 10-psi at system critical node(s):**
 - Fire Node ID – FH11319
 - Flow = 3,638-gpm

 - Fire Node ID – FH11321
 - Flow = 3,704-gpm

 - Fire Node ID – FH11322
 - Flow = 3,674-gpm

***No critical areas. Due to large available flows, additional analysis performed to verify remaining system pressures were adequate during fire flow.**

Greenland School System

Greenland School Site (Hwy. 71)

- Required Fire Flow = 6,000-gpm @ 4 hours
- Fire Flow w/Sprinkler Reduction of 75% = 1,500-gpm
- Per IFC code, fire flow not less than 1,500-gpm @ prescribed duration (i.e. 4 hours)

- Available Fire Flow Results:
 - Fire Node ID – FH11724
 - Flow = 2,182-gpm @ 20-psi

 - Fire Node ID – FH11726
 - Flow = 2,210-gpm @ 20-psi

 - Fire Node ID – FH11723
 - Flow = 2,149-gpm @ 20-psi

- ***Fire Flow Results w/maintaining 10-psi at system critical node(s):**
 - Fire Node ID – FH03247
 - Flow = 769-gpm

 - Fire Node ID – FH03248
 - Flow = 782-gpm

 - Fire Node ID – FH14662
 - Flow = 758-gpm

***Critical Areas – Wallin Mtn. Rd. (all areas above 1,400' elevation)
 – Customers south of W. Horn Street (i.e. W. Circle Dr., Scott Ave., Shadow Dr., Path Trail, West and South Napier Dr.)**

Farmington School System

Jerry "Pop" Williams Elementary

- Required Fire Flow = 3,250-gpm @ 3 hours
- Fire Flow w/Sprinkler Reduction of 75% = 812.50-gpm
- Per IFC code, fire flow not less than 1,500-gpm @ prescribed duration (i.e. 3 hours)

- Available Fire Flow Results:
 - Fire Node ID – FH02857
 - Flow = 5,613-gpm @ 20-psi

- *Fire Flow Results w/maintaining 10-psi at system critical node(s):
 - Fire Node ID – FH02857
 - Flow = 1,217-gpm

***Critical Area – Dinsmore Trail (areas located on 2" waterline)**

Farmington School Site (Double Springs Rd.)

- Required Fire Flow = 6,000-gpm @ 4 hours
- Fire Flow w/Sprinkler Reduction of 75% = 1,500-gpm
- Per IFC code, fire flow not less than 1,500-gpm @ prescribed duration (i.e. 4 hours)

- Available Fire Flow Results:
 - Fire Node ID – FH02397
 - Flow = 1,162-gpm @ 20-psi

 - Fire Node ID – FH02398
 - Flow = 1,140-gpm @ 20-psi

 - Fire Node ID – FH10450
 - Flow = 2,198-gpm @ 20-psi

 - Fire Node ID – FH14506
 - Flow = 2,689-gpm @ 20-psi

- *Fire Flow Results w/maintaining 10-psi at system critical node(s):
 - Fire Node ID – FH03247
 - Flow = 1,177-gpm

 - Fire Node ID – FH03248
 - Flow = 1,177-gpm

 - Fire Node ID – FH10450
 - Flow = 1,103-gpm

- Fire Node ID – FH14662
- Flow = 1,182-gpm

***Critical Areas – Dinsmore Trail (areas located on 2" waterline)
– Archie Watkins Rd.**

Miscellaneous

Washington Regional Medical Center

- Required Fire Flow = 6,000-gpm @ 4 hours
- Fire Flow w/Sprinkler Reduction of 75% = 1,500-gpm
- Per IFC code, fire flow not less than 1,500-gpm @ prescribed duration (i.e. 4 hours)
- Available Fire Flow Results:
 - Fire Node ID – FH02182
 - Flow = 8,531-gpm @ 20-psi
 - Fire Node ID – FH02183
 - Flow = 8,856-gpm @ 20-psi
 - Fire Node ID – FH02184
 - Flow = 10,510-gpm @ 20-psi
 - Fire Node ID – FH02185
 - Flow = 9,345-gpm @ 20-psi
 - Fire Node ID – FH02186
 - Flow = 7,206-gpm @ 20-psi
- *Fire Flow Results w/maintaining 10-psi at system critical node(s):
 - Fire Node ID – FH02182
 - Flow = 1,302-gpm
 - Fire Node ID – FH02183
 - Flow = 1,301-gpm
 - Fire Node ID – FH02184
 - Flow = 1,302-gpm
 - Fire Node ID – FH02185
 - Flow = 1,312-gpm
 - Fire Node ID – FH02186
 - Flow = 1,325-gpm

***Critical Area – Dinsmore Trail (areas located on 2" waterline)**

University of Arkansas Medical Science

- Required Fire Flow = 6,000-gpm @ 4 hours
- Fire Flow w/Sprinkler Reduction of 75% = 1,500-gpm
- Per IFC code, fire flow not less than 1,500-gpm @ prescribed duration (i.e. 4 hours)
- Available Fire Flow Results:
 - Fire Node ID – FH11658
 - Flow = 12,434-gpm @ 20-psi
- *Fire Flow Results w/maintaining 10-psi at system critical node(s):
 - Fire Node ID – FH11658
 - Flow = 3,907-gpm

***No critical areas. Due to large available flow, additional analysis performed to verify remaining system pressures were adequate during fire flow.**



McGoodwin Williams & Yates
Engineering Confidence

302 E. Millsap Road
Fayetteville, Arkansas 72703
Phone: 479-443-3404
FAX: 479-443-4340

TECHNICAL MEMORANDUM No.1

Fayetteville Water Master Plan

Existing Water Model Revisions/Updates

City of Fayetteville, Arkansas

MWY Project No. Fy-363

August 4, 2017

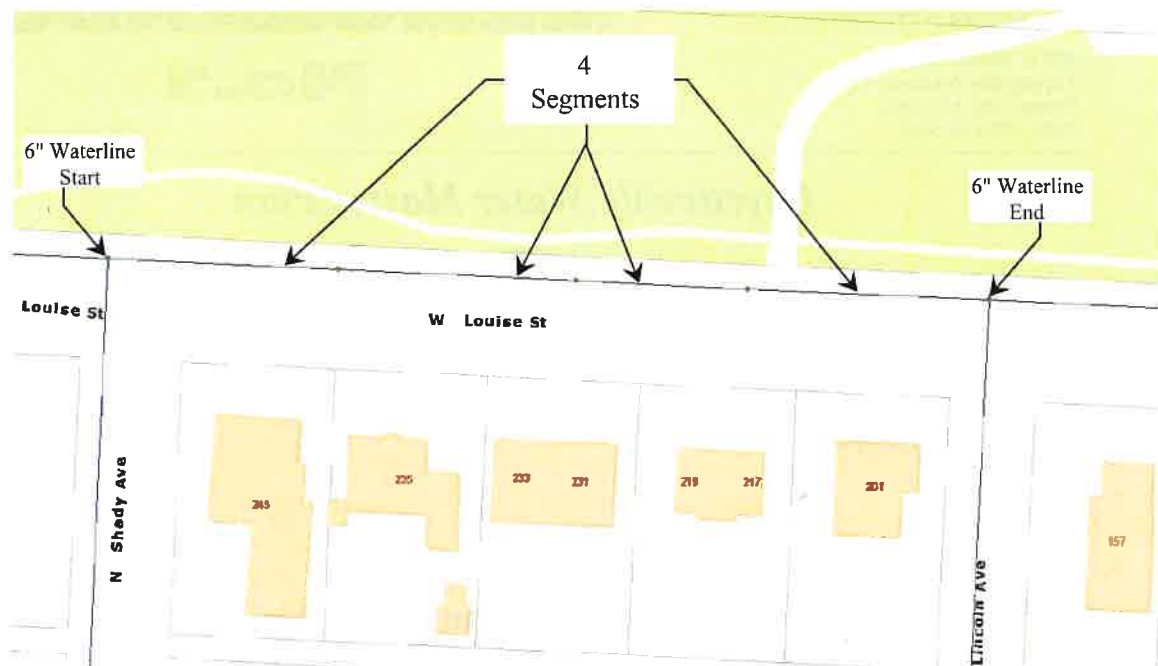
The following memorandum outlines the changes that MWY performed to the City's existing hydraulic water model that was calibrated by others in 2015. The revisions are based upon city GIS data regarding distribution infrastructure (i.e. pipe, valves, hydrants, etc.), city customer billing records (i.e. customer usage, address geocoding), field work (i.e. model calibration) and discussions with city water staff regarding tank/pump station controls and system operations.

1.0 Water Model Infrastructure Updates

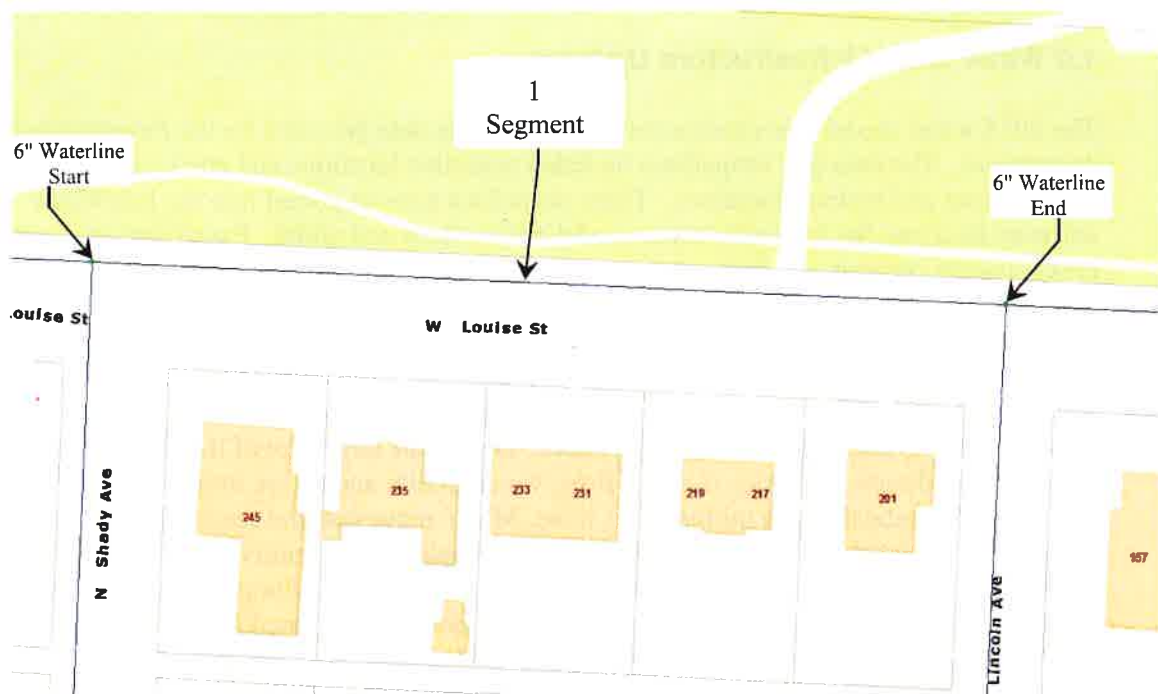
The 2015 water model was constructed by others from data provided by the Fayetteville GIS department. The data (i.e. shapefiles) included waterline locations and attributes as well as valve, fitting and hydrant locations. These shapefiles were imported into the InfoWater software to create the hydraulic water model's waterlines and nodes. Pump stations, water tanks, system controls and demand data were provided by the City and input manually into the model.

MWY received a copy of the 2015 water model from the City, and per the Agreement updated and utilized the updated model for the water master plan. The 2015 model contained approximately 31,700 pipes and 30,700 nodes. Due to the large size of the model, the speed of running hydraulic scenarios (i.e. fire flow, water quality and future improvements) was decreased dramatically. To mitigate this issue, MWY requested and received permission from the City to "scale" down the model. This was accomplished by removing superfluous pipe segments and/or nodes that were not vital to the day to day operation of the water system or the hydraulic model. For example, when the 2015 model was created from the City's GIS, the InfoWater software converted the valve, fitting and hydrant shapefiles to nodes. This resulted in some pipes having more nodes than what was necessary to replicate field conditions. By removing these unnecessary nodes, MWY was able to reduce the overall model size and still have an accurate representation of the distribution piping (see Example No.1 and No.2).

Example No.1 – Piping Pre-Node Removal



Example No.2 – Piping Post-Node Removal



The 2017 Fayetteville water model now contains approximately 13,580 pipes and 12,456 nodes. By scaling down number of pipes and nodes, MWY has discovered that the model speed has increased without diminishing its capabilities of replicating the day to day operations of the water system (see *Section 5.0 “Development and Verification of the Hydraulic Model”* of Master Plan). MWY also added any waterlines that had been installed in the system since the 2015 water model was delivered to the City.

Other items that were updated and/or reviewed for accuracy are shown below:

- Pump station and water tank controls
- Flow/pressure settings of all flow control valves (FCV) and pressure reducing valves (PRV)
- Location of all closed valves in system
- Any system or operational controls unique to the Fayetteville distribution system

Section 6.0 of the Water Master Plan report contains more detailed information on all infrastructure included in the updated hydraulic water model.

2.0 Customer Billing Records

Customer billing data for the years 2010 to present was also requested by MWY. The customer billing data, along with Fayetteville daily demand data obtained from Beaver Water District (BWD), was used to determine the existing average and maximum day demand to be used in the model. The billing records were also used for geocoding. Geocoding is a process in which demands are placed in the model at the approximate location where they occur in the system (see *Section 5.0* of the Water Master Plan report).

The usage data was also used to verify and/or create diurnal demand curves for the existing average and maximum day. Diurnal demand curves are an illustration of how system demands change each hour over a given day.

3.0 Model Calibration

Once the model was updated to the current water system configuration and the existing demands were input, the next step performed by MWY was calibration of the water model. The Fayetteville water department staff and MWY conducted sixty-eight (68) static pressure tests and fourteen (14) flow tests at different locations throughout the City of Fayetteville's water service area. These tests were to be used to validate the accuracy of the updated hydraulic model. See *Section 5.0* of the Water Master Plan report for more detail of the calibration process.



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TECHNICAL MEMORANDUM No.2

Fayetteville Water Master Plan

ADH Storage Requirements

City of Fayetteville, Arkansas

MWY Project No. Fy-363

July 25, 2017

The following memorandum outlines a discussion between ADH Chief Engineer Lance Jones, P.E., and Chris Hall, P.E. regarding clarification of water storage requirements for water systems. Specifically, MWY wanted to discuss the ADH's policy regarding minimum operational storage for system's during times of emergency. In previous water master plan reports, MWY has stated the following,

“due to the increasing problems with water quality issues that distribution systems face due to the EPA (Environmental Protection Agency) Stage 2 DBP (disinfection by-product) requirements, MWY solicited assistance from the Arkansas Department of Health and Human Services (ADH) regarding the required operational storage for a distribution system in times of emergencies (i.e. line breaks, BWD emergency shut down, etc.). ADH recommended system storage equal to a typical average day usage to assist in mitigating the formation of DBP's and to assist in keeping water “fresh” in the distribution system. If feasible, the ADH also recommended redundancy in other areas such as power supplies (back-up generators, etc.) and/or alternate feeds from the water supplier.”

The information above was based on a 2011 conversation between MWY and the ADH. The recent discussion with Lance Jones, P.E., was to verify the department's current stance and to inquire about any additions, omissions, etc. to this policy.

At the onset of the discussion, Mr. Jones stated that the following storage suggestions were more of a “rule of thumb” based on ADH's experience and observations (i.e. sanitary surveys, etc.) of the different water systems in the state. The highlights from the discussion are shown below:

- ADH recommends storage capacity equal to the entities average day usage (24-hr). It is important to note that the storage capacity must be usable storage. Usable storage is defined as the storage above the minimum water level of a tank that is required to maintain a pressure of approximately 20-psi or higher in the system.

- ADH will allow for more or less than an average day storage capacity depending on the entities water system. The range stated was between 18-30 hours.
- Total storage should not exceed 6-7 days; however, the recommended target range that entities should design for is between 3-4 days. Total storage is defined as the total amount of tank storage present in the system. The more storage present the longer it takes to turn over the water in the tank.
- ADH strongly recommends that each entity work diligently to maintain system tanks (i.e. regular inspections, repairs, repainting, etc.) and to manage/operate their systems (i.e. pump and tank controls to promote water turnover, etc.) to prevent the degradation of water within the tanks.

It is important to note that Mr. Jones stated that each water system has unique challenges and that what works for one may not work for other systems. He stressed the importance of managing and maintaining the water system to provide quality, safe drinking water to the public.



City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2017-0679

Agenda Date: 12/5/2017

Version: 1

Status: Agenda Ready

In Control: City Council Meeting

File Type: Resolution

Agenda Number: C. 6

CITY OF GREENLAND WASTEWATER CONTRACT:

A RESOLUTION TO APPROVE A FIFTEEN (15) YEAR CONTRACT WITH THE CITY OF GREENLAND TO ACCEPT AND PROCESS THEIR WASTEWATER AND TO AUTHORIZE MAYOR JORDAN TO SIGN THIS CONTRACT

WHEREAS, the City of Fayetteville owns and operates its wastewater collection and treatment system and has for almost a quarter century accepted and treated wastewater from the City of Greenland; and

WHEREAS, the City of Greenland has for almost a quarter century abided by and properly performed its obligations pursuant to the Fayetteville-Greenland Contract of 1993 and extensions thereof including the latest two-year extension of March 15, 2016; and

WHEREAS, it is in mutual best interests of the citizens and cities of Fayetteville and Greenland to enter into this renewal of that sewer contract and its extensions.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1. That the City Council of the City of Fayetteville, Arkansas hereby approves the attached Fayetteville and Greenland Sewer Contract of 2017 with a term of fifteen (15) years with an option for Greenland to renew for an additional fifteen (15) years and authorizes Mayor Jordan to sign this contract.

City of Fayetteville Staff Review Form

2017-0679

Legistar File ID

12/5/2017

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Tim Nyander

11/20/2017

Utilities Director /
Utilities Department

Submitted By

Submitted Date

Division / Department

Action Recommendation:

Staff recommends approval of a fifteen-year agreement between the Cities of Fayetteville for Greenland regarding the provision of wastewater collection services for the City of Greenland for the period of January 1, 2018 until December 31, 2032.

Budget Impact:

N/A

N/A

Account Number

Fund

N/A

N/A

Project Number

Project Title

Budgeted Item? NA

Current Budget \$ -

Funds Obligated \$ -

Current Balance \$ -

Does item have a cost? NA

Item Cost \$ -

Budget Adjustment Attached? NA

Budget Adjustment \$ -

Remaining Budget \$ -

V20140710

Previous Ordinance or Resolution # 60-16

Original Contract Number:

Approval Date:

Comments:



MEETING OF DECEMBER 5, 2017

TO: Mayor and City Council

THRU: Don Marr, Chief of Staff
Water & Sewer Committee

FROM: Tim Nyander, Utilities Director *TN*

DATE: November 20, 2017

SUBJECT: Resolution approving a fifteen-year agreement to continue sewer service by Fayetteville for Greenland for the period of January 1, 2018 to December 31, 2032

RECOMMENDATION:

Staff recommends approval of a fifteen-year agreement between Fayetteville and Greenland to operate and maintain Greenland's wastewater collection system.

BACKGROUND:

Fayetteville has operated and maintained the wastewater collection system in Greenland since the system was installed in the mid-1970's. The current wastewater services agreement expires December 31, 2017. In the past, Greenland had expressed a willingness for Fayetteville to own the system, in addition to operating and maintaining it. To make that transition, the system needed to be restored by refurbishing the sewer pump station on Sandy Lane. While a plan was being developed, the City of Fayetteville renewed the sewer service contract in two-year increments.

DISCUSSION:

Greenland has recently acquired financing to make improvements on their sewer collection system, and have started work on the design for upgrades. Given that, the City of Greenland will retain ownership of their sewer collection system, and is requesting to extend the sewer service contract for a period of 15 years, to reflect the original contract.

A signed contract is normally required to start a Legistar item, but not necessarily when we are working with another governmental unit. It is important to get this item moving forward while we wait for Greenland Mayor Groom to sign the agreement after his Council's approval. The signed contract will be in place before it goes to Mayor Jordan for signature.

BUDGET/STAFF IMPACT:

None. Greenland residents pay the "outside of city" sewer rates; this will not change.

Attachments:

Agreement

FAYETTEVILLE AND GREENLAND

SEWER CONTRACT OF 2017

Comes now the City of Fayetteville and the City of Greenland and mutually agree to this new Fifteen (15) Year Sewer Contract for the period of January 1, 2018 until December 31, 2032.

The City of Fayetteville and the City of Greenland hereby mutually agree as follows:

WHEREAS, the City of Fayetteville owns and operates its wastewater collection and treatment system and has for almost a quarter century accepted and treated wastewater from the City of Greenland; and

WHEREAS, the City of Greenland has for almost a quarter century abided by and properly performed its obligations pursuant to the Fayetteville-Greenland Contract of 1993 and extensions thereof including the latest two-year extension of March 15, 2016; and

WHEREAS, it is in mutual best interests of the citizens and cities of Fayetteville and Greenland to enter into this renewal of that sewer contract and its extensions.

The City of Fayetteville and the City of Greenland mutually promise, agree and covenant to fully perform and obey all of the terms, requirements and conditions shown below:

1. **FAYETTEVILLE WILL ACCEPT AND TREAT GREENLAND SEWERAGE:** Fayetteville agrees that it will continue to operate and maintain the Greenland sewer system and shall treat all wastewater collected within the Greenland city limits (but only for customers who have individual water services provided by Fayetteville). Sewer service to Greenland residents not having Fayetteville water service may be furnished provided mutual agreement on the method of billing such customers can be reached by Fayetteville and Greenland.

2. **GREENLAND CUSTOMERS WILL PAY FAYETTEVILLE TO ACCEPT AND TREAT SEWERAGE:** Greenland agrees that it will require its citizens receiving Fayetteville water service to purchase sewer service from Fayetteville under the same sewer availability criteria as required of Fayetteville citizens. Greenland agrees that its citizens will be subject to pay sewer rates on a cost-of-service basis pursuant to the current sewer service rates adopted by the Fayetteville City Council (§51.137 of the Code of Fayetteville) and any amendments thereto.

3. **NEW GREENLAND CUSTOMERS SHALL PAY IMPACT FEES:** Pursuant to Greenland Ordinance 280, Greenland customers receiving new sewer service from Fayetteville shall pay sewer impact fees to Fayetteville in the same amount as new development in Fayetteville pays pursuant to the current ordinance and any amendments to §159.02 **Water and Wastewater Impact Fees** of the Unified Development Code of Fayetteville. Pursuant to Greenland ordinance 282, Greenland customers will pay Greenland local impact fees, which Fayetteville will collect and remit quarterly to Greenland.

4. CHARGES AND REQUIREMENTS FOR SEWER SERVICE CONNECTIONS: The charges for making individual connections to the Greenland System shall be as established by the Fayetteville City Council and as adjusted from time to time. A Plumbing Permit must be obtained from the City of Fayetteville before a connection order can be issued by Fayetteville.

5. BILLING, COLLECTIONS AND PAYMENT: Fayetteville shall issue billing and collect all bills in accordance with ordinances of the City of Fayetteville and the rules and regulations of the Water and Wastewater Department of Fayetteville as now exist or hereafter adopted, and if any customer fails or refuses to pay said billing, Fayetteville shall discontinue water and sewer service to such customer in accordance with said ordinances, rules and regulations.

6. COMPLIANCE WITH RULES AND REGULATIONS: The City of Greenland and all sewer customers shall comply with, at all times, the ordinances, rules and regulations of the City of Fayetteville which may now exist or may hereafter be promulgated. Failure or refusal of any customer to comply with such ordinances, rules or regulations will subject the customer to immediate discontinuance of water and sewer service. Neither Fayetteville nor Greenland shall in any way be liable for any damages or expenses which may result from such discontinuance.

(A) Each customer shall obtain a Plumbing Permit from the City of Fayetteville and install all plumbing in accordance with the ordinances, rules and regulations of the City of Fayetteville in effect at the time such plumbing is installed. Fayetteville shall provide a copy of each and every regulation and ordinance so alluded to this Contract to Greenland as they now exist and shall provide changes to those regulations as soon as possible after such changes are made.

(B) Greenland shall not be held liable under any rule or regulation or ordinance that has not been properly transmitted to them. Greenland will adopt an ordinance or ordinances providing for the discontinuance of water and sewer service in the event of failure or refusal of a customer to comply with the above provisions. All plumbing shall be inspected by the City of Fayetteville Plumbing Inspector, or his authorized agent. The Plumbing Permit Fee/Inspection Fee shall be as prescribed by the City of Fayetteville from time to time for outside of the City of Fayetteville.

(C) The Plumbing Permit Fees for Greenland shall be determined on a cost of service basis and shall include but not be limited to the costs of equipment used, man hours employed, and mileage, overhead and administrative costs. The Plumbing Permit Fees shall be as shown in Exhibit "B", attached and as modified by Fayetteville from time to time. Greenland will make provision by ordinance for authorized agents of Fayetteville to enter any and all properties for inspection where the possibility of violation of said plumbing ordinances, rules and regulations may exist.

(D) It is understood Greenland may issue its own Plumbing Permits and do its own inspections at such time as they develop the staff and capabilities to do so.

7. **OWNERSHIP OF SYSTEM:** It is understood that the Greenland System, including all sewers, the sewage lift station, force mains, and appurtenances thereto are the property of the City of Greenland.

8. **OPERATION AND MAINTENANCE:** Fayetteville shall operate and maintain all of the existing Greenland System and all facilities which may be constructed and become a part of the Greenland System in the future. Operation and Maintenance shall include:

(A) Pump Stations: Fayetteville shall provide the maintenance made necessary by the normal wear and tear encountered by the system. It does not include the replacement or enlargement of the station made necessary either by the increase in normal domestic flows or by an increase in the infiltration and inflow within the Greenland System. Neither does it include repair of extraordinary damages resulting from Acts of God.

(B) Gravity Sewers and Force Mains: Operation and maintenance of the gravity sewers and force mains shall mean the demand maintenance required as a result of a reported gravity sewer or force main blockage, the preventive rodding and cleaning of gravity sewer mains or force mains, and in-house sewer rehabilitation activities. In-house sewer rehabilitation shall include smoke testing, televising of lines, manhole lining and repairs, chemical grouting, point repairs, and line replacements not exceeding 15 feet. Fayetteville agrees that it shall utilize the same criteria to determine the extent and degree of in-house sewer rehabilitation to be done within the Greenland System as we do for the Fayetteville sewerage system.

9. **CONSTRUCTION OF NEW FACILITIES:** New gravity sewers, force mains, pump stations, sewerage appurtenances, or enlargement thereof shall be constructed without cost to Fayetteville. This includes enlarging, replacing, moving, relocating, lowering, or adjusting to grade of any of the facilities of the system should they become overloaded or for the purpose of permitting construction of other facilities. To the extent that these or similar activities are undertaken, they shall be undertaken without cost of Fayetteville. Also included under this Paragraph are pump station replacements or improvements, sewer line replacements, construction of relief sewers, force main replacements and improvements, Sewer System Evaluation Studies intended to define excessive stormwater infiltration and inflow into the Greenland System, and subsequent construction to eliminate such excessive infiltration and inflow. All of these activities or projects shall be accomplished without cost to Fayetteville. The need for a Sewer System Evaluation Study would be jointly determined by Greenland and Fayetteville.

Fayetteville and Greenland agree that Greenland may add a surcharge to the amounts normally charged by Fayetteville for sewer services provided under this Contract. The purpose shall be to provide for the construction of new facilities as defined in this Paragraph, and for other purposes as may be specified by Greenland. The money collected under this provision shall be collected by the City of Fayetteville and shall be dispersed to Greenland two times per year beginning in July of 2018.

Any interest earned on said funds shall go to Fayetteville to compensate for the administration, audit and payment of said funds.

Plans and specifications for any new construction as described above must be approved by the Fayetteville City Engineer and the Arkansas State Department of Health prior to the execution of any construction contract. Pipe size for any facilities shall be in keeping with prospects for future growth. Pipe and other materials used in such construction shall be in accordance with the standard construction practices of the Sewer Department of Fayetteville at the time such work is done. The design and specifications for any sewer facilities shall be in keeping with acceptable engineering practices at the time of construction. All such construction shall be planned and supervised by a Registered Professional engineer licensed to practice in the State of Arkansas. Greenland shall not extend any sewer lines beyond the Greenland City Limits.

Fayetteville shall be furnished two copies of the "As-Built" plans of all work, with a certification from the Engineer that all work was constructed in accordance with the approved plans and specifications. Fayetteville shall have the right to inspect and test the system within a reasonable time prior to accepting and placing the system into service.

10. EXTENSIONS BY FAYETTEVILLE: Fayetteville shall have the right to make extensions from Greenland's lines to serve adjacent areas inside or outside the present limits of Fayetteville so long as Fayetteville does not serve customers in the present limits of Greenland. The cost of replacement or enlargement of Greenland's lines of pumping facilities required by loads imposed by Fayetteville shall be borne by Fayetteville.

11. EASEMENTS: When easements are necessary in connection with maintenance and/or construction activities provided for in this Contract, those easements shall be acquired by and at the expense of Greenland. The easements shall be of adequate width for construction, installation and maintenance of lines and appurtenances. Fayetteville shall be afforded the right to full use of such easement. The form of such easements, together with the provisions contained therein, shall be the same as used by Fayetteville at the time such easements are obtained. All such easements, whether acquired by condemnation proceedings or otherwise, shall be obtained without cost to Fayetteville.

12. ORDINANCES AND REGULATIONS TO FACILITATE PERFORMANCE OF CONTRACT: Greenland and Fayetteville will enact, adopt or execute ordinances, motions, resolutions, rules, regulations or supplemental agreements which may be necessary to carry out the terms of this agreement. All ordinances required to be enacted by Greenland under this contract shall be enacted within 90 days of the contract execution date unless specifically stated otherwise in the contract.

13. PROSECUTION FOR TAMPERING: Greenland agrees to enact and enforce an ordinance or ordinances with provisions substantially as follows:

"It shall be unlawful for any person other than a person authorized by the Water and Wastewater Director of the City of Fayetteville, Arkansas, to make connection with the sewer collection system in this City or to tamper with any manhole or any appurtenance to the sewer collection system in this City. Nothing in this ordinance shall be so constructed as to prevent any person when acting under the authority of the Director of the Water and Wastewater Department of the City of Fayetteville, Arkansas, from changing, altering or otherwise working with any portion of the sewer system located in this city."

That violation of said ordinance or ordinances shall be prosecuted within the fullest limits of the law. Greenland agrees that it will prosecute all offenders.

14. INDUSTRIAL PRETREATMENT:

a) Greenland Ordinance: Greenland agrees to adopt or to maintain the effectiveness of its sewer use ordinance which is no less stringent and is as broad in scope as the sewer use ordinance as adopted by Fayetteville. Whenever Fayetteville amends its sewer use ordinance, it will forward a copy of such amendment within 30 business days of enactment thereof. Greenland will enact amendments at least as stringent of those adopted by Fayetteville within 30 business days of receipt thereof. The Parties will periodically review their respective sewer use ordinance and jointly draft and adopt amendments (which are equivalent in scope and stringency) to their respective sewer use ordinance when deemed necessary for the effective administration and operation of the pretreatment program. This review will be conducted no less than once every 2 years. However, either party may request a joint review whenever such party believes that a review is necessary.

A request for such joint review must be forwarded by the requesting party to the other party, stating the reason for the request and the date on which the review is requested to take place. Within 10 days of receipt of the request, the receiving party must respond to the request stating that the proposed date is satisfactory or proposing an alternate date(s) for the review. In any case, the joint review will take place within 30 business days of the request.

b) Local Limits: Greenland will adopt and diligently enforce local limits which address at least the same pollutant parameters and are at least as stringent as the local limits enacted by Fayetteville. If any revisions or additions are made to Fayetteville's local limits, Fayetteville will forward to Greenland a copy of any such revisions or additions to the local limits within 10 business days of enactment thereof. Greenland agrees to adopt any revisions or additions made to Fayetteville's local limits within 30 business days.

c) Implementation of Greenland Ordinance: Greenland designates Fayetteville as the agent of Greenland for the purposes of implementation and enforcement of Greenland's sewer use ordinance against users connected to the Greenland System.

Fayetteville, on behalf of and as an agent for Greenland will perform technical and administrative duties necessary to implement and enforce Greenland's sewer use ordinance. Fayetteville will: (1) update the industrial waste survey; (2) issue permits to all users required to obtain a permit; (3) conduct inspections, sampling, and analysis; (4) take all appropriate enforcement action as outlined in the enforcement response plan; and (5) perform any other technical or administrative duties the parties to this agreement deem appropriate.

Fayetteville may, as an agent of Greenland, take emergency action to stop or prevent any discharge which presents or may present an imminent danger to the health or welfare of humans, which reasonably appears to threaten the environment, or which threatens to cause interference, pass through, or sludge contamination.

d) Pretreatment Program Costs: Fayetteville will be responsible for all costs (including labor, equipment, attorney's fees, etc.) incurred in implementing and enforcing Greenland's sewer use ordinance on behalf of Greenland. In the event of a lawsuit relating to the implementation or enforcement of the pretreatment program in Greenland, the City of Fayetteville shall be responsible for the defense of its interest only. The City of Greenland will be responsible for attorneys and other professional expertise that may be required to defend its interest.

Nothing in this paragraph should be construed to mean that Fayetteville will not work with Greenland in every way possible in the event of a lawsuit, nor does it prohibit the combining of legal forces by Fayetteville and Greenland in the defense of a lawsuit as long as the cost sharing of such a defense of a lawsuit is agreed upon beforehand.

e) Outside Greenland Dischargers: No industrial user outside the limits of the City of Greenland shall be allowed to tie on to the Greenland System.

f) Mediation of Disputes: Any disputes arising out of this Contract concerning pretreatment issues should be submitted to mediation if the parties cannot timely resolve any dispute themselves. Both parties retain all of their normal rights to seek judicial relief.

g) Review of Pretreatment Agreement: The portion of this Contract dealing with industrial pretreatment will be reviewed and revised to ensure compliance with the Federal Clean Water Act (42 U.S.C. para. 1251 et seq.) and all rules and regulations (see 40 CFR Part 403) issued thereunder as necessary, but at least every (2) years.

15. **LIABILITY**: Fayetteville shall not be responsible for damages resulting from acts of God, acts of war, insurrections or rebellions, acts of a public enemy, acts of any unauthorized persons, firms or corporations, or acts of Greenland or its agents or employees.

16. **TAXES PROHIBITED**: Greenland will not during the period of this contract or any renewal thereof levy any franchise tax, occupation tax, or any other tax of any form whatsoever, by whatever name it may be called, upon Fayetteville or the services rendered pursuant to this contract without consent of all the parties.

17. **TERMINATION OF CONTRACT**: This agreement may be terminated by either party upon breach by the other of any of the covenants or agreements contained herein, and the failure of the party in breach to remedy such breach, within six (6) months after receipt of written notice of the existence of such breach.

18. **OPTION TO RENEW CONTRACT**: Greenland shall have the option to renew this contract upon the same terms and conditions contained herein for an additional period of

fifteen (15) years by giving proper written notice to the Mayor of Fayetteville of its intent to renew no later than December 31, 2031.

19. NOTICES: The written notices provided for herein shall be sufficient if hand delivered or sent by certified mail, return receipt requested, postage prepaid, to the Mayor of the City of Fayetteville, Arkansas, or the Mayor of the City of Greenland, Arkansas at their respective official City Hall addresses.

20. SEVERABILITY: Should any term of this Agreement be held null and void or rescinded by a court of competent jurisdiction, the remaining terms of this Agreement will be unaffected and enforceable.

IN WITNESS WHEREOF, Fayetteville and Greenland have executed this Contract by their respective Mayors and have caused their seals to be hereunto affixed and same attested to by the City Clerk and/or City Recorder, having been authorized to do so by appropriate resolution of their respective City Councils.

CITY OF FAYETTEVILLE

Lioneld Jordan, Mayor

ATTEST: _____
Sondra Smith, City Clerk

Date signed: _____

CITY OF GREENLAND

Bill Groom, Mayor

ATTEST: _____
**Stephanie Sharp,
Recorder/Treasurer**

Date signed: _____



City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2017-0654

Agenda Date: 12/5/2017

Version: 1

Status: Agenda Ready

In Control: City Council Meeting

File Type: Resolution

Agenda Number: C. 7

ALLGEIER, MARTIN AND ASSOCIATES, INC.:

A RESOLUTION TO AUTHORIZE A PROFESSIONAL ENGINEERING SERVICES AGREEMENT WITH ALLGEIER, MARTIN AND ASSOCIATES, INC., PURSUANT TO RFQ #17-01, IN AN AMOUNT NOT TO EXCEED \$480,049.00 FOR THE ENGINEERING DESIGN AND ENGINEERING OBSERVATION AND MANAGEMENT SERVICES ASSOCIATED WITH ELECTRICAL REHABILITATION AND IMPROVEMENTS AT THE PAUL R. NOLAND WASTEWATER TREATMENT PLANT, TO APPROVE A PROJECT CONTINGENCY IN THE AMOUNT OF \$48,004.90, AND TO APPROVE A BUDGET ADJUSTMENT

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby authorizes Mayor Jordan to sign a professional engineering services agreement with Allgeier, Martin and Associates, Inc., pursuant to RFQ #17-01, in an amount not to exceed \$480,049.00 for engineering design and engineering observation and management services associated with electrical rehabilitation and improvements at the Paul R. Noland Wastewater Treatment Plant, and further approves a project contingency in the amount of \$48,004.90.

Section 2: That the City Council of the City of Fayetteville, Arkansas hereby approves a budget adjustment, a copy of which is attached to this Resolution.

City of Fayetteville Staff Review Form

2017-0654

Legistar File ID

12/5/2017

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Tim Nyander

11/9/2017

Utilities Director /
Utilities Department

Submitted By

Submitted Date

Division / Department

Action Recommendation:

Staff recommends a resolution awarding RFQ 17-01 and authorize an engineering contract with Allgeier, Martin and Associates, Inc. in the amount of \$480,049.00 for the engineering design and engineering observation/management associated with the electrical improvements at the Paul R. Noland Wastewater Treatment Plant, approving a contingency in the amount of \$48,004.90 for a total amount of \$528,053.90, and approving a budget adjustment.

Budget Impact:

5400.730.5800-5400.00

Water & Sewer

Account Number

Fund

02032.1

WWTP Building Improvements

Project Number

Project Title

Budgeted Item? Yes

Current Budget \$ 509,011.00

Funds Obligated \$ 5,627.00

Current Balance \$ 503,384.00

Does item have a cost? Yes

Item Cost \$ 528,053.90

Budget Adjustment Attached? Yes

Budget Adjustment \$ 24,670.00

Remaining Budget \$ 0.10

V20140710

Previous Ordinance or Resolution # 189-16

Original Contract Number:

Approval Date:

Comments:



MEETING OF DECEMBER 5, 2017

TO: Mayor and City Council

THRU: Don Marr, Chief of Staff
Water & Sewer Committee

FROM: Tim Nyander, Utilities Director

DATE: November 7, 2017

SUBJECT: **Approval of an Engineering Contract with Allgeier, Martin and Associates, Inc. including the design of electrical rehabilitation and improvements for the Paul R. Noland WWTP; approval of a contract contingency; approval of a budget adjustment.**

RECOMMENDATION:

Staff recommends approval of the professional engineering contract with Allgeier, Martin and Associates, Inc. in the not to exceed amount of \$480,049.00 for the engineering design and engineering observation/management services, approval of a ten percent engineering contract contingency of \$48,004.90 for a total amount of \$528,053.90, and approval of a budget adjustment.

BACKGROUND:

The engineering services for this project include implementation of the WASTEWATER TREATMENT PLANT ELECTRICAL STUDY PAUL R. NOLAND WWTP for THE CITY OF FAYETTEVILLE, ARKANSAS dated April 20, 2017 as prepared by Allgeier, Martin and Associates, Inc.

The proposed contract is for engineering design and observation/management. The project includes (a) 12.47 kV lines, gear and equipment and (b) 480 volt lines, gear, equipment, breakers, transformers. A summary of the proposed future construction including an opinion of future construction costs as prepared by Allgeier, Martin and Associates, Inc. is attached.

DISCUSSION:

Allgeier, Martin and Associates, Inc. were selected for this task in a formal engineering selection committee meeting on July 26, 2017, City of Fayetteville RFQ 17-01, Engineer and Architect - Selection #1.

The contract scope and the not to exceed costs were negotiated by City Utilities staff.

BUDGET/STAFF IMPACT:

Funds will be moved from the Wastewater Treatment, Water Quality Improvements project to the WWTP Building Improvements project.

ATTACHMENTS:

- a. Engineering Contract with Allgeier, Martin and Associates, Inc.
- b. WASTEWATER TREATMENT PLANT ELECTRICAL STUDY PAUL R. NOLAND WWTP for THE CITY OF FAYETTEVILLE, ARKANSAS dated April 20, 2017 as prepared by Allgeier, Martin and Associates, Inc.
- c. Summary of proposed electrical construction

AGREEMENT
For
PROFESSIONAL ENGINEERING SERVICES
Between
CITY OF FAYETTEVILLE, ARKANSAS
And
ALLGEIER, MARTIN AND ASSOCIATES, INC.

PAUL R. NOLAND WASTEWATER TREATMENT PLANT ELECTRICAL UPGRADE

THIS AGREEMENT is made as of _____, 20__, by and between City of Fayetteville, Arkansas, acting by and through its Mayor (hereinafter called CITY OF FAYETTEVILLE) and ALLGEIER, MARTIN AND ASSOCIATES, INC. with offices located in Joplin, Missouri (hereinafter called ENGINEER).

CITY OF FAYETTEVILLE from time to time requires professional engineering services in connection with the planning, design, permitting, construction, operation, maintenance, management, and financing of City utilities and in particular requires services associated with Electrical Upgrade of the Paul R. Noland (east) wastewater treatment plant (WWTP) (The "Project"). Therefore, CITY OF FAYETTEVILLE and ENGINEER in consideration of their mutual covenants agree as follows:

ENGINEER shall serve as CITY OF FAYETTEVILLE's professional engineering consultant in those assignments to which this Agreement applies, and shall give consultation and advice to CITY OF FAYETTEVILLE during the performance of ENGINEER's services. All services shall be performed under the direction of a professional engineer registered in the State of Arkansas and qualified in the particular field.

SECTION 1 - AUTHORIZATION OF SERVICES

- 1.1 Services on any assignment shall be undertaken only upon written Authorization of CITY OF FAYETTEVILLE and agreement of ENGINEER.
- 1.2 Assignments may include services described hereafter as Basic Services or as Additional Services of ENGINEER.
- 1.3 Changes, modifications or amendments in scope, price or fees to this contract shall **not** be allowed without a formal contract amendment approved by the Mayor and the City Council **in advance** of the change in scope, costs, fees, or delivery schedule.

SECTION 2 - BASIC SERVICES OF ENGINEER

- 2.1 Perform professional engineering services in connection with the Project as hereinafter stated.
 - 2.1.1 The Scope of Services to be furnished by ENGINEER as a part of the Electrical Upgrade is included in Appendix A attached hereto and made part of this Agreement.

- 2.2 ENGINEER shall coordinate their activities and services with the CITY OF FAYETTEVILLE. ENGINEER and CITY OF FAYETTEVILLE agree that ENGINEER has full responsibility for the engineering services.

SECTION 3 - RESPONSIBILITIES OF CITY OF FAYETTEVILLE

- 3.1 CITY OF FAYETTEVILLE shall, within a reasonable time so as not to delay the services of ENGINEER:
- 3.1.1 Provide full information as to CITY OF FAYETTEVILLE's requirements for the Project.
 - 3.1.2 Assist ENGINEER by placing at ENGINEER's disposal all available information pertinent to the assignment including previous reports and any other data relative thereto.
 - 3.1.3 Provide access to and make all provisions for ENGINEER to enter upon property as required for ENGINEER to perform his services under this Agreement.
 - 3.1.4 Examine all studies, reports, sketches, cost opinions, Bid Documents, Drawings, proposals, and other documents presented by ENGINEER and render in writing decisions pertaining thereto.
 - 3.1.5 The Utilities Director is the CITY OF FAYETTEVILLE's project representative with respect to the services to be performed under this Agreement. The Utilities Director shall have complete authority to transmit instructions, receive information, interpret and define CITY OF FAYETTEVILLE's policies and decisions with respect to materials, equipment, elements and systems to be used in the Project, and other matters pertinent to the services covered by this Agreement.
 - 3.1.6 CITY OF FAYETTEVILLE and/or its representative will review all documents and provide written comments to ENGINEER in a timely manner.

SECTION 4 - PERIOD OF SERVICE

- 4.1 This Agreement will become effective upon the first written notice by CITY OF FAYETTEVILLE authorizing services hereunder.
- 4.2 The provisions of this Agreement have been agreed to in anticipation of the orderly progress of the Project through completion of the services stated in the Agreement. ENGINEER will proceed with providing the authorized services immediately upon receipt of written authorization from CITY OF FAYETTEVILLE. Said authorization shall include the scope of the services authorized and the time in which the services are to be completed.

SECTION 5 - PAYMENTS TO ENGINEER

5.1 Compensation

- 5.1.1 For the Electrical Design and related services for the Electrical Upgrade to the Paul R. Noland Wastewater Treatment Plant set forth in Appendix A, Section A.2.1, CITY OF FAYETTEVILLE shall pay ENGINEER on the basis of the hourly labor rates and non-labor rates, as set forth in Exhibit A, "Allgeier Martin and Associates, Inc. Rate Schedule", with a maximum fee, including direct labor expenses and non-labor expenses not-to-exceed \$480,049.00. Estimates of direct labor expenses by personnel classification, and non-labor expenses are shown in Exhibit B.
- 5.1.2 Payments made by CITY OF FAYETTEVILLE based upon ENGINEER'S Hourly Rates shall approximate the schedule in Exhibit A, "LABOR RATES". Underruns in one phase or item of the work may be used to offset overruns in another phase or item of work as long as the total contract amount is not exceeded.

5.2 Statements

- 5.2.1 Monthly statements for each calendar month shall be submitted to CITY OF FAYETTEVILLE or such parties as CITY OF FAYETTEVILLE may designate for services consistent with ENGINEER's normal billing schedule. Once established, the billing schedule shall be maintained throughout the duration of the Project. Applications for payment shall be made in accordance with a format to be developed by ENGINEER and approved by CITY OF FAYETTEVILLE. Final payment for professional services shall be made upon CITY OF FAYETTEVILLE's approval and acceptance with the satisfactory completion of the study and report for the Project.

5.3 Payments

- 5.3.1 All statements are payable upon receipt and due within thirty (30) days. If a portion of ENGINEER's statement is disputed by CITY OF FAYETTEVILLE, the undisputed portion shall be paid by CITY OF FAYETTEVILLE by the due date. CITY OF FAYETTEVILLE shall advise ENGINEER in writing of the basis for any disputed portion of any statement. CITY OF FAYETTEVILLE will make reasonable effort to pay invoices within 30 days of date the invoice is approved, however, payment within 30 days is not guaranteed.

5.4 Final Payment

- 5.4.1 Upon satisfactory completion of the work performed under this Agreement, as a condition before final payment under this Agreement, or as a termination settlement under this Agreement, ENGINEER shall execute and deliver to CITY OF FAYETTEVILLE a release of all claims against CITY OF FAYETTEVILLE arising under or by virtue of this Agreement, except claims which are specifically exempted by ENGINEER to be set forth therein. Unless otherwise provided in this Agreement or by State law or otherwise expressly agreed to by the parties to this Agreement, final payment under this Agreement or settlement upon termination

of this Agreement shall not constitute a waiver of CITY OF FAYETTEVILLE's claims against ENGINEER or his sureties under this Agreement or applicable performance and payment bonds, if any.

SECTION 6 - GENERAL CONSIDERATIONS

6.1 Insurance

6.1.1 During the course of performance of these services, ENGINEER will maintain (in United States Dollars) the following minimum insurance coverages:

<u>Type of Coverage</u>	<u>Limits of Liability</u>
Workers' Compensation Employers' Liability	Statutory \$500,000 Each Accident
Commercial General Liability Bodily Injury and Property Damage	\$1,000,000 Combined Single Limit
Automobile Liability: Bodily Injury and Property Damage	\$1,000,000 Combined Single Limit
Professional Liability Insurance	\$1,000,000 Each Claim

ENGINEER will provide to CITY OF FAYETTEVILLE certificates as evidence of the specified insurance within ten days of the date of this Agreement and upon each renewal of coverage.

6.1.2 CITY OF FAYETTEVILLE, and ENGINEER waive all rights against each other and their officers, directors, agents, or employees for damage covered by property insurance during and after the completion of ENGINEER's services.

6.2 Professional Responsibility

6.2.1 ENGINEER will exercise reasonable skill, care, and diligence in the performance of ENGINEER's services and will carry out its responsibilities in accordance with customarily accepted professional engineering practices. ENGINEER agrees not to seek or accept any compensation or reimbursements from the City of Fayetteville for engineering work it performs to correct any errors, omissions or other deficiencies caused by ENGINEER's failure to meet customarily accepted professional engineering practices. CITY OF FAYETTEVILLE retains all other remedies to recover for its damages caused by any negligence of ENGINEER.

6.3 Cost Opinions and Projections

- 6.3.1 Cost opinions and projections prepared by ENGINEER relating to construction costs and schedules, operation and maintenance costs, equipment characteristics and performance, and operating results are based on ENGINEER's experience, qualifications, and judgment as a design professional. Since ENGINEER has no control over weather, cost and availability of labor, material and equipment, labor productivity, construction Contractors' procedures and methods, unavoidable delays, construction Contractors' methods of determining prices, economic conditions, competitive bidding or market conditions, and other factors affecting such cost opinions or projections, ENGINEER does not guarantee that actual rates, costs, performance, schedules, and related items will not vary from cost opinions and projections prepared by ENGINEER.

6.4 Changes

- 6.4.1 CITY OF FAYETTEVILLE shall have the right to make changes within the general scope of ENGINEER's services, with an appropriate change in compensation and schedule only after Fayetteville City Council approval of such proposed changes and, upon execution of a mutually acceptable amendment or change order signed by the Mayor of the CITY OF FAYETTEVILLE and the duly authorized officer of ENGINEER.

6.5 Termination

- 6.5.1 This Agreement may be terminated in whole or in part in writing by either party in the event of substantial failure by the other party to fulfill its obligations under this Agreement through no fault of the terminating party, provided that no termination may be effected unless the other party is given:
- 6.5.1.1 Not less than ten (10) calendar days written notice (delivered by certified mail, return receipt requested) of intent to terminate,
 - 6.5.1.2 An opportunity for consultation with the terminating party prior to termination.
- 6.5.2 This Agreement may be terminated in whole or in part in writing by CITY OF FAYETTEVILLE for its convenience, provided that ENGINEER is given:
- 6.5.2.1 Not less than ten (10) calendar days written notice (delivered by certified mail, return receipt requested) of intent to terminate,
 - 6.5.2.2 An opportunity for consultation with the terminating party prior to termination.
- 6.5.3 If termination for default is effected by CITY OF FAYETTEVILLE, an equitable adjustment in the price provided for in this Agreement shall be made, but
- 6.5.3.1 No amount shall be allowed for anticipated profit on unperformed services or other work,

- 6.5.3.2 Any payment due to ENGINEER at the time of termination may be adjusted to cover any additional costs to CITY OF FAYETTEVILLE because of ENGINEER's default.
- 6.5.4 If termination for default is effected by ENGINEER, or if termination for convenience is effected by CITY OF FAYETTEVILLE, the equitable adjustment shall include a reasonable profit for services or other work performed. The equitable adjustment for any termination shall provide for payment to ENGINEER for services rendered and expenses incurred prior to the termination, in addition to termination settlement costs reasonably incurred by ENGINEER relating to commitments which had become firm prior to the termination.
- 6.5.5 Upon receipt of a termination action under Paragraphs 6.5.1 or 6.5.2 above, ENGINEER shall:
- 6.5.5.1 Promptly discontinue all affected work (unless the notice directs otherwise),
- 6.5.5.2 After payment in accordance with Paragraphs 6.5.3 and 6.5.4 above, deliver or otherwise make available to CITY OF FAYETTEVILLE all data, drawings, specifications, reports, estimates, summaries and such other information and materials as may have been accumulated by ENGINEER in performing this Agreement, whether completed or in process. CITY OF FAYETTEVILLE shall have limited right to use the deliverables subject to the provisions of Paragraph 6.13.2.
- 6.5.6 Upon termination under Paragraphs 6.5.1 or 6.5.2 above CITY OF FAYETTEVILLE may take over the work and may award another party an agreement to complete the work under this Agreement.
- 6.5.7 If, after termination for failure of ENGINEER to fulfill contractual obligations, it is determined that ENGINEER had not failed to fulfill contractual obligations, the termination shall be deemed to have been for the convenience of CITY OF FAYETTEVILLE. In such event, adjustments of the agreement price shall be made as provided in Paragraph 6.5.4 of this clause.
- 6.6 Delays
- 6.6.1 In the event the services of ENGINEER are suspended or delayed by CITY OF FAYETTEVILLE or by other events beyond ENGINEER's reasonable control, ENGINEER shall be entitled to additional compensation and time for reasonable costs incurred by ENGINEER in temporarily closing down or delaying the Project.
- 6.7 Rights and Benefits
- 6.7.1 ENGINEER's services will be performed solely for the benefit of CITY OF FAYETTEVILLE and not for the benefit of any other persons or entities.

6.8 Dispute Resolution

6.8.1 Scope of Paragraph: The procedures of this Paragraph shall apply to any and all disputes between CITY OF FAYETTEVILLE and ENGINEER which arise from, or in any way are related to, this Agreement, including, but not limited to the interpretation of this Agreement, the enforcement of its terms, any acts, errors, or omissions of CITY OF FAYETTEVILLE or ENGINEER in the performance of this Agreement, and disputes concerning payment.

6.8.2 Exhaustion of Remedies Required: No action may be filed unless the parties first negotiate. If timely Notice is given under Paragraph 6.8.3, but an action is initiated prior to exhaustion of these procedures, such action shall be stayed, upon application by either party to a court of proper jurisdiction, until the procedures in Paragraphs 6.8.3 and 6.8.4 have been complied with.

6.8.3 Notice of Dispute

6.8.3.1 For disputes arising prior to the making of final payment promptly after the occurrence of any incident, action, or failure to act upon which a claim is based, the party seeking relief shall serve the other party with a written Notice;

6.8.3.2 For disputes arising within one year after the making of final payment, CITY OF FAYETTEVILLE shall give ENGINEER written Notice at the address listed in Paragraph 6.14 within thirty (30) days after occurrence of any incident, accident, or first observance of defect or damage. In both instances, the Notice shall specify the nature and amount of relief sought, the reason relief should be granted, and the appropriate portions of this Agreement that authorize the relief requested.

6.8.4 Negotiation: Within seven days of receipt of the Notice, the Project Managers for CITY OF FAYETTEVILLE and ENGINEER shall confer in an effort to resolve the dispute. If the dispute cannot be resolved at that level, then, upon written request of either side, the matter shall be referred to the President of ENGINEER and the Mayor of CITY OF FAYETTEVILLE or his designee. These officers shall meet at the Project Site or such other location as is agreed upon within 30 days of the written request to resolve the dispute.

6.9 CITY OF FAYETTEVILLE represents that it has sufficient funds or the means of obtaining funds to remit payment to ENGINEER for services rendered by ENGINEER.

6.10 Publications

6.10.1 Recognizing the importance of professional development on the part of ENGINEER's employees and the importance of ENGINEER's public relations, ENGINEER may prepare publications, such as technical papers, articles for periodicals, and press releases, pertaining to ENGINEER's services for the Project. Such publications will be provided to CITY OF FAYETTEVILLE in draft form for CITY OF FAYETTEVILLE's advance review. CITY OF FAYETTEVILLE shall review such drafts promptly and provide CITY OF FAYETTEVILLE's comments to ENGINEER. CITY OF FAYETTEVILLE may require

deletion of proprietary data or confidential information from such publications, but otherwise CITY OF FAYETTEVILLE will not unreasonably withhold approval. The cost of ENGINEER's activities pertaining to any such publication shall be for ENGINEER's account.

6.11 Indemnification

- 6.11.1 CITY OF FAYETTEVILLE agrees that it will require all construction Contractors to indemnify, defend, and hold harmless CITY OF FAYETTEVILLE and ENGINEER from and against any and all loss where loss is caused or incurred or alleged to be caused or incurred in whole or in part as a result of the negligence or other actionable fault of the Contractors, or their employees, agents, Subcontractors, and Suppliers.

6.12 Computer Models

- 6.12.1 ENGINEER may use or modify ENGINEER's proprietary computer models in service of CITY OF FAYETTEVILLE under this Agreement, or ENGINEER may develop computer models during ENGINEER's service to CITY OF FAYETTEVILLE under this Agreement. Such use, modification, or development by ENGINEER does not constitute a license to CITY OF FAYETTEVILLE to use or modify ENGINEER's computer models. Said proprietary computer models shall remain the sole property of the ENGINEER. CITY OF FAYETTEVILLE and ENGINEER will enter into a separate license agreement if CITY OF FAYETTEVILLE wishes to use ENGINEER's computer models.

6.13 Ownership of Documents

- 6.13.1 All documents provided by CITY OF FAYETTEVILLE including original drawings, disks of CADD drawings and cross sections, estimates, specification field notes, and data are and remain the property of CITY OF FAYETTEVILLE. ENGINEER may retain reproduced copies of drawings and copies of other documents.
- 6.13.2 The CITY OF FAYETTEVILLE acknowledges the Engineer's documents, including all documents on electronic media ("delivered documents"), as instruments of professional service. Nevertheless, the delivered documents prepared under this Agreement shall be delivered to and become the property of the CITY OF FAYETTEVILLE upon completion of the services and payment in full of all monies due to the Engineer. Except for the Engineer's services provided for by this Agreement as related to the construction and completion of a Project, the ENGINEER accepts no liability arising from any reuse of the delivered documents by the CITY OF FAYETTEVILLE, unless the Engineer is retained by CITY OF FAYETTEVILLE to make modifications or otherwise reuse the delivered documents. Except where the CITY OF FAYETTEVILLE reuses the delivered documents subsequent to the completion of the Project, nothing contained in this paragraph shall alter the Engineer's responsibilities and obligations under this Agreement.
- 6.13.3 Any files delivered in electronic medium may not work on systems and software different than those with which they were originally produced. ENGINEER makes no warranty as to

the compatibility of these files with any other system or software. Because of the potential degradation of electronic medium over time, in the event of a conflict between the sealed original drawings/hard copies and the electronic files, the sealed drawings/hard copies will govern.

6.14 Notices

- 6.14.1 Any Notice required under this Agreement will be in writing, addressed to the appropriate party at the following addresses:

CITY OF FAYETTEVILLE's address:

113 West Mountain Street
Fayetteville, Arkansas 72701

ENGINEER's address:

7231 East 24th Street
Joplin, Missouri 64804-3485

6.15 Successor and Assigns

- 6.15.1 CITY OF FAYETTEVILLE and ENGINEER each binds himself and his successors, executors, administrators, and assigns to the other party of this Agreement and to the successors, executors, administrators, and assigns of such other party, in respect to all covenants of this Agreement; except as above, neither CITY OF FAYETTEVILLE nor ENGINEER shall assign, sublet, or transfer his interest in the Agreement without the written consent of the other.

6.16 Controlling Law

- 6.16.1 This Agreement shall be subject to, interpreted and enforced according to the laws of the State of Arkansas without regard to any conflicts of law provisions.

6.17 Entire Agreement

- 6.17.1 This Agreement represents the entire Agreement between ENGINEER and CITY OF FAYETTEVILLE relative to the Scope of Services herein. Since terms contained in purchase orders do not generally apply to professional services, in the event CITY OF FAYETTEVILLE issues to ENGINEER a purchase order, no preprinted terms thereon shall become a part of this Agreement. Said purchase order document, whether or not signed by ENGINEER, shall be considered as a document for CITY OF FAYETTEVILLE's internal management of its operations.

SECTION 7 - SPECIAL CONDITIONS

7.1 Additional Responsibilities of ENGINEER:

- 7.1.1 CITY OF FAYETTEVILLE's review, approval, or acceptance of design drawings, specifications, reports and other services furnished hereunder shall not in any way relieve ENGINEER of responsibility for the technical adequacy of the work. CITY OF FAYETTEVILLE's review, approval or acceptance of, nor payment for any of the services shall be construed as a waiver of any rights under this Agreement or of any cause of action arising out of the performance of this Agreement.
- 7.1.2 ENGINEER shall be and shall remain liable, in accordance with applicable law, for all damages to CITY OF FAYETTEVILLE caused by ENGINEER's negligent performance of any of the services furnished under this Agreement except for errors, omissions or other deficiencies to the extent attributable to CITY OF FAYETTEVILLE or CITY OF FAYETTEVILLE-furnished data.
- 7.1.3 ENGINEER's obligations under this clause are in addition to ENGINEER's other express or implied assurances under this Agreement or State law and in no way diminish any other rights that CITY OF FAYETTEVILLE may have against ENGINEER for faulty materials, equipment, or work.

7.2 Remedies

- 7.2.1 Except as may be otherwise provided in this Agreement, all claims, counter-claims, disputes and other matters in question between CITY OF FAYETTEVILLE and ENGINEER arising out of or relating to this Agreement or the breach thereof will be decided in a court of competent jurisdiction within Arkansas.

7.3 Audit: Access to Records

- 7.3.1 ENGINEER shall maintain books, records, documents and other evidence directly pertinent to performance on work under this Agreement in accordance with generally accepted accounting principles and practices consistently applied in effect on the date of execution of this Agreement. ENGINEER shall also maintain the financial information and data used by ENGINEER in the preparation of support of the cost submission required for any negotiated agreement or change order and send to CITY OF FAYETTEVILLE a copy of the cost summary submitted. CITY OF FAYETTEVILLE, the State or any of their authorized representatives shall have access to all such books, records, documents and other evidence for the purpose of inspection, audit and copying during normal business hours. ENGINEER will provide proper facilities for such access and inspection.
- 7.3.2 Records under Paragraph 7.3.1 above, shall be maintained and made available during performance on assisted work under this Agreement and until three years from the date of final payment for the project. In addition, those records which relate to any controversy arising out of such performance, or to costs or items to which an audit exception has been

taken, shall be maintained and made available until three years after the date of resolution of such appeal, litigation, claim or exception.

7.3.3 This right of access clause (with respect to financial records) applies to:

7.3.3.1 Negotiated prime agreements:

7.3.3.2 Negotiated change orders or agreement amendments in excess of \$10,000 affecting the price of any formally advertised, competitively awarded, fixed price agreement:

7.3.3.3 Agreements or purchase orders under any agreement other than a formally advertised, competitively awarded, fixed price agreement. However, this right of access does not apply to a prime agreement, lower tier subagreement or purchase order awarded after effective price competition, except:

7.3.3.3.1 With respect to record pertaining directly to subagreement performance, excluding any financial records of ENGINEER;

7.3.3.3.2 If there is any indication that fraud, gross abuse or corrupt practices may be involved;

7.3.3.3.3 If the subagreement is terminated for default or for convenience.

7.4 Covenant Against Contingent Fees

7.4.1 ENGINEER warrants that no person or selling agency has been employed or retained to solicit or secure this Agreement upon an agreement of understanding for a commission, percentage, brokerage or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by ENGINEER for the purpose of securing business. For breach or violation of this warranty, CITY OF FAYETTEVILLE shall have the right to annul this Agreement without liability or at its discretion, to deduct from the contract price or consideration, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee.

7.5 Gratuities

7.5.1 If CITY OF FAYETTEVILLE finds after a notice and hearing that ENGINEER or any of ENGINEER's agents or representatives, offered or gave gratuities (in the form of entertainment, gifts or otherwise) to any official, employee or agent of CITY OF FAYETTEVILLE, the State or EPA in an attempt to secure an agreement or favorable treatment in awarding, amending or making any determinations related to the performance of this Agreement, CITY OF FAYETTEVILLE may, by written notice to ENGINEER terminate this Agreement. CITY OF FAYETTEVILLE may also pursue other rights and remedies that the law or this Agreement provides. However, the existence of the facts on which CITY OF FAYETTEVILLE bases such finding shall be in issue and may be reviewed in proceedings under the Remedies clause of this Agreement.

7.5.2 In the event this Agreement is terminated as provided in Paragraph 7.5.1, CITY OF FAYETTEVILLE may pursue the same remedies against ENGINEER as it could pursue in the event of a breach of the Agreement by ENGINEER. As a penalty, in addition to any other damages to which it may be entitled by law, CITY OF FAYETTEVILLE may pursue exemplary damages in an amount (as determined by CITY OF FAYETTEVILLE) which shall be not less than three nor more than ten times the costs ENGINEER incurs in providing any such gratuities to any such officer or employee.

7.6 Arkansas Freedom of Information Act

7.6.1 City contracts and documents, including internal documents and documents of subcontractors and sub-consultants, prepared while performing City contractual work are subject to the Arkansas Freedom of Information Act (FOIA). If a Freedom of Information Act request is presented to the CITY OF FAYETTEVILLE, ENGINEER will provide the documents in a prompt and timely manner as prescribed in the Arkansas Freedom of Information Act (A.C.A. §25-19-101 et seq.). Only legally authorized photocopying costs pursuant to the FOIA may be assessed for this compliance.

IN WITNESS WHEREOF, CITY OF FAYETTEVILLE, ARKANSAS by and through its Mayor, and ENGINEER, by its authorized officer have made and executed this Agreement as of the day and year first above written.

CITY OF FAYETTEVILLE, ARKANSAS

By: _____
Mayor

ATTEST:

By: _____
City Clerk

ALLGEIER, MARTIN AND ASSOCIATES, INC.

By: Randall J Adair
Title: Vice President

Changes, modifications or amendments in scope, price or fees to this Contract shall **not** be allowed without formal contract amendment approved by the Mayor and the City Council **in advance** of the change in scope, cost, fees, or delivery schedule.

END OF AGREEMENT FOR PROFESSIONAL ENGINEERING SERVICES

CITY OF FAYETTEVILLE, ARKANSAS
AGREEMENT FOR ENGINEERING SERVICES

APPENDIX A – SCOPE OF SERVICES

This is Appendix A, consisting of six (6) pages, referred to in and part of the Agreement for Professional Services between the CITY OF FAYETTEVILLE, ARKANSAS and ALLGEIER, MARTIN AND ASSOCIATES, INC. dated _____.

Initial:

CITY OF FAYETTEVILLE, AR. _____

ALLGEIER, MARTIN AND ASSOCIATES, INC. RJA

The following contains additional Scope of Services tasks:

A.1 General Scope

The work covered by this Agreement includes the design, solicitation of bids for material and construction, contract procurement, inspection and construction support of the 15kV and 480V electrical upgrades to the Paul R. Noland Wastewater Treatment Plant (WWTP). The upgrades are derived from the Electrical Study for the Paul R. Noland WWTP performed in the spring of 2017. All equipment prepared by the study shall be used. Arc flash calculations shall also be performed on the new equipment and arc flash labels installed on that equipment.

A.2 Specific Scope of Services

ALLGEIER, MARTIN AND ASSOCIATES, INC. shall provide a suitable engineering staff to obtain the necessary field information required to provide the following services:

A.2.1 Design

Design the 15kV electrical upgrades to the Paul R. Noland WWTP for the CITY OF FAYETTEVILLE, AR. Design the 480V electrical upgrades to the same facility. Design includes the reconnecting of existing 480V wiring and equipment that was present at the time of the referenced study;

- Replace the aged 15kV underground cable in duct bank
 - from the dip pole/riser pole to manhole 4
 - from manhole 4 to the old Primary Influent switchgear/switching station
 - from manhole 4 to the Aeration Basin pad-mount switches

- Replace 15kV padmount switchgear cabinet
the old Primary Influent switchgear/switching station
- Replace 12,470/480V padmount transformers
 - two 1500 kVA for the Aeration Basin Building
 - two 500 kVA for the old Primary Influent Building
 - two 1500 kVA or smaller for the Blower Building
 - two 1500 kVA for the Effluent Building
 - two 1000 kVA or smaller for the Ozone Building
- Remove 480V aerial buss duct and replace with equivalent
 - into Aeration Basin Building
 - into Blower Building
- Install 480V tap box
 - at old Primary Influent transformers
 - at transformer TX-5 near the old Operations Building
 - at Effluent transformers
- Replace 480V switchgear and tap existing feed to motor control centers (MCC)
 - at Aeration Basin Building – outside unit
 - at Ozone Building – outside unit
 - at Blower Building – inside unit
- Replace 480V underground cable
 - from the Aeration Basin switchgear to the Filter Building
- Remove 480V switchgear
 - in the basement of the old Operations Building
- Install 480V distribution panel
 - in the old Operations Building to supply existing MCC
- Replace 480V MCC's and associated wiring
 - two at the old Primary Influent Building (motor starters, metering)
 - four at the Aeration Basin Building
 - one at the Blower Building
 - two at the Filter Building
 - two at the Sludge Building
 - two at the Effluent Building
- Install arc flash labels on new equipment

All 480V switchgear, MCC's and distribution panels shall be reconnected to match present or near present configurations.

A.2.2 Bidding

ALLGEIER, MARTIN AND ASSOCIATES, INC. shall prepare documentation and specifications and solicit bids for the project to qualified electrical contractors. One construction contract shall be utilized. ALLGEIER, MARTIN AND ASSOCIATES, INC. shall review all bids and recommend the lowest bidder. The contract shall cover all of the 15kV portions and 480V services listed in Section A.2.1.

A.2.3 Contract Procurement

ALLGEIER, MARTIN AND ASSOCIATES, INC. shall review invoices from the successful bidder and make recommendations for payment to the CITY OF FAYETTEVILLE, AR. Once construction is completed, ALLGEIER, MARTIN AND ASSOCIATES, INC. shall perform a closeout of the contract.

A.2.4 Inspection

ALLGEIER, MARTIN AND ASSOCIATES, INC. shall provide an on-site inspector for the duration of the construction phase of the project. There are 165 full time inspector days (10 hour days) allotted for the estimate provided in Exhibit B. Additional spot inspections shall be performed by key office personnel during and after the project's completion. A field report shall be given upon the completion of the construction phases.

A.2.5 Construction Support

ALLGEIER, MARTIN AND ASSOCIATES, INC. shall provide construction support for the duration of the construction phase. This includes phone calls, e-mails, meetings and field visits.

A.3 Project Deliverables

The following shall be submitted to the CITY OF FAYETTEVILLE, AR.;

Drawings and as-built records of new equipment at the Paul R. Noland WWTP
Electrical schematics of new equipment at the Paul R. Noland WWTP

A.4 Compensation

In consideration of the performance of the foregoing services by ALLGEIER, MARTIN AND ASSOCIATES, INC., the CITY OF FAYETTEVILLE, AR. shall pay to ALLGEIER, MARTIN AND ASSOCIATES, INC. compensation as set forth in Section 5 of the Agreement for Professional Engineering Services.

A.4.1 Attachments

A.4.1.1 Exhibit A - ALLGEIER, MARTIN AND ASSOCIATES, INC. Rate Schedule

A.4.1.2 Exhibit B – Estimate of Expenses

A.5 Schedule

ALLGEIER, MARTIN AND ASSOCIATES, INC. anticipates engineering for the project to start within 30 days of issuance of a Notice to Proceed from the CITY OF FAYETTEVILLE, AR. ALLGEIER, MARTIN AND ASSOCIATES, INC. shall proceed with design, developing plans and specifications. AM shall prepare the contract and plans and specification documents for bid solicitations. AM shall then forward these documents to the city for review. Once approved, bid solicitation should take approximately eight weeks to complete.

EXHIBIT A
ALLGEIER, MARTIN AND ASSOCIATES, INC. RATE SCHEDULE
2018 -2019

LABOR RATES

<u>Classification</u>	<u>Hourly Billing Rate</u>	
	01/01/2018 thru 12/31/2018	01/01/2019 thru 12/31/2019
Principal/Engineer IV	\$195	\$199
Principal/Engineer III	\$180	\$185
Principal/Engineer II	\$150	\$155
Principal/Engineer I	\$140	\$145
Designer III/GIS Specialist	\$132	\$136
Designer/Technician III	\$112	\$116
Designer/Technician II	\$80	\$85
Designer/Technician I	\$75	\$80
Two-Man GPS Survey Crew	\$185	\$189
One-Man GPS Survey Crew	\$145	\$150
Three-Man Survey Crew	\$201	\$201
Two-Man Survey Crew	\$160	\$165
Registered Land Surveyor II	\$170	\$174
Registered Land Surveyor I	\$150	\$155
Survey Crew Member	\$76	\$80
Right of Way Specialist	\$116	\$120
Project Representative III	\$112	\$116
Project Representative II	\$100	\$105
Project Representative I	\$92	\$96
Clerical	\$70	\$75
Print Specialist	\$70	\$75

Note: All pre-approved overtime hours shall be invoiced at 1½ times the hourly billing rate shown above.

NON-LABOR RATES

<u>Item</u>	<u>Rate</u>
Travel	\$0.53 per mile (or current IRS rate)
Subsistence	Actual Cost
Lodging	Actual Cost
Special Postage or Shipping	Actual Cost
Printing	Actual Cost
Surveying Materials	Actual Cost
Subcontract Specialty Services	Cost + 10%

EXHIBIT B
ESTIMATE OF EXPENSES

Paul R. Noland WWTP Electrical Upgrades

Engineer IV	16 hrs.	\$3,144
Engineer III	485 hrs.	\$87,775
Technician III	980 hrs.	\$112,080
Technician II	350 hrs.	\$28,850
Clerical	340 hrs.	\$24,300

Print Specialist	46 hrs.	\$3,300
Non-Labor Costs		<u>\$5,000</u>
<i>Subtotal Estimated Engineering Cost</i>		<i>\$264,449</i>

Project Representative III	1650 hrs.	\$188,000
Non-Labor Costs		<u>\$27,600</u>
<i>Subtotal Estimated Inspection Cost</i>		<i>\$215,600</i>

Total Cost for Engineering & Inspection	\$480,049
--	------------------

WASTEWATER TREATMENT PLANT
ELECTRICAL STUDY
PAUL R. NOLAND WWTP
for
THE CITY OF FAYETTEVILLE, ARKANSAS

April, 2017



Prepared by
AM
ALLGEIER, MARTIN and ASSOCIATES, INC.
Consulting Engineers • Surveyors
Joplin, Missouri

Certificate of Authorization 126 PE/LS

12/31/18

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ALLGEIER, MARTIN and ASSOCIATES, INC.
Consulting Engineers • Surveyors
Joplin, Missouri

Paul R. Noland WWTP Electrical Study

Introduction

- A. The purpose of this study is to evaluate the 12.47 kilo-volt and the 480 volt (3) three phase electrical equipment at the Paul R. Noland Wastewater Treatment Plant as it relates to the condition of the equipment and the availability of replacement parts for equipment prior to or at the time of failure.
- B. Then scope of this project will include electrical 12.47 kV equipment, distribution, 480 volt (3) three phase, distribution, Motor Control Centers, switchboards, panelboards, Busways and special switches. The evaluation will include an inventory of the existing equipment, approximate age and condition of the electrical equipment for either replacement or parts of the electrical system to have on hand or a plan in place for response to equipment failures as they occur. The site electrical distribution system is shown on Figure 1, and the electrical one line diagram is shown on Figure 1A.

Existing 12.47 kV Distribution System

The 12.47 kV Distribution System is comprised of both overhead and underground facilities. The overhead portion of the electrical system is visible and in good condition. Replacement parts are common and require short lead times to acquire. No improvements are recommended at this time.

The 12.47 kV underground facilities consist of buried cable, switchgear, pad mount transformers and associated hardware. The cable has a concentric neutral with an outer sheath. This type of cable typically has a lifespan of 40 years. Since the plant is approximately 40 years old, the cable is near the end of its normal life. Buried cables can be spliced or replaced. Underground cable is common and requires a relatively short lead time to acquire. We recommend replacing these underground cables with a scheduled upgrade/improvement to the facility.

There are four locations where 15 kV switchgear is utilized. The main unit is next to the old Primary Influent Building. This unit has switches that are not operated and it contains a live buss. A live buss configuration is dangerous since limited protection is provided between energized parts and the employer. Various switches and handles stick due to its age and non-use. A second unit similar to the first is near the original Operations Building. It has the same conditions as the first with some exceptions. The internal fuses are bypassed and several switches do not work at all. These units are not a common brand and will be extremely difficult to obtain any replacement parts. Due to the units being unsafe to operate, we recommend changing both of these out to a newer style without a live buss.

The third unit was installed in 2006. It is located near the first and next to T101. It has the newer dead front design which provides additional protection from energized parts. It appears in good condition. Replacement parts are still available for this unit.

The forth location consists of two pad mount units. They are located in front of the Aeration Basins. These units also utilize the newer dead front design. They appear to have been installed as part of the upgrade to the old Chlorination Building. They also appear to be in good condition. Replacement parts are still available for these units.

New 15 kV switchgear is similar to those in front of the Aeration Basin Building. The new units are dead front which provide additional protection from electric shock and arc flash. New switchgear comes in a variety of switching and fused protection schemes. It is recommended that the old unit near the old Primary Influent Building be replaced with a PME-9 style unit. A four way 15 kV sectionalizing cabinet with dead front connections is recommended in front of the new switchgear. This will aid in splitting the 12.47 kV lines. The estimate for this cabinet is \$4,000 with an additional \$2,000 for labor. It is recommended to use a PME-9 style unit to replace the switchgear near the old Operations Building. The PME-9 has an estimated cost of \$32,000 with an additional \$8,000 for labor per unit. We would recommend replacing this equipment within the next year.

Existing 12.47 kV Pad Mount Transformers

There are ten pad mount transformers of various ages at the plant. The newest units are at the Ozone Building, T101, near the Primary Influent Buildings and TX-5 near the old Operations Building. They appear to be on good condition. Transformers are not items that typically have replacement parts. The most cost effective method is to change out the entire transformer. Pad mount transformers are easy to locate.

The oldest transformers are located in pairs; one is for the Aeration Basins, one for the Primary Influent and one for the Blower Building. All of these are old GE transformers with built in high-side load interrupter switches and low-side breakers. No manufacturing date is given on their nameplates. These transformers are still in operation but their age is unknown. Their high-side switches either do not work or do not work well. This is the switch that is used to de-energize the transformer. These types of transformers are very rarely seen today.

One of the transformers near the old Primary Influent Building has developed a small oil leak. The cabinets are rusting through. (See Figure 4A, upper right picture) This location utilizes an underground feed into the buildings Motor Control Centers. It is recommended to replace this pair of transformers. These are recommended for replacement.

The other two units have overhead raceways that supply the switchboards. These units do not show any visible sign of rust at this time. Since they appear to be the same age as the first pair and a transformers typical life span is approximately 40 years, they are also recommended for replacement.

There are two transformers that supply the Ozone Building. They appear to be in good shape. There is a clearance violation on the southernmost unit. It should have a minimum of ten feet in front of the doors. It has four feet nine inches to the next transformer. This is a safety clearance violation. We recommend rotating the transformer 90 degrees. This cannot be done energized. The same foundation can be used but new secondary conductor may be required to feed the switchboard. Care must be taken not to bend the underground cables to sharply or the insulation can be ruined.

New pad mount transformers are similar to those in front of the Ozone Building. We would recommend replacing like size transformers. For instance, AB-1 and AB-2 are 1500 kVA each. Replacements for these would be the same voltage and kVA size. The estimated cost to replace a 1500 kVA transformer is \$30,000 per unit with an additional \$8,000 for labor. The estimated cost to replace a 500 kVA transformer is \$12,000 per unit with an additional \$5,000 for labor. We would recommend replacing this equipment within the next five years.

Existing 480 Volt Electrical Distribution Systems

A. Original Operations Building (OPS Bldg).

The Operations Building was part of the original Wastewater Treatment Plant built sometime around 1968 to 1978. The building is mostly used for equipment storage and materials used in the process. Most of the electrical equipment has been abandoned and de-energized but the main switchgear located in the basement is still in service, this equipment is at least 40 years old and nearing the end of safe operation.

The Operations Building switchboard consists of three sections of Square-D, Saflex Fusible Switches, the main switch is a 2000 amp fusible switch. This switchboard is fed from the 12.5 kV switchgear and transformer just south of the old Operations Building and labeled, Load Interrupter-2.

This type of gear does not have any metering for voltage or ampere reading to the operator only on and off switches, over time the mechanisms can become corroded and rusted decreasing the safety at shut-off and to re-energize. There appears to be very little load being used at this time. This switchgear is located in a very damp environment, with no lighting.

Depending on the future use of the Operations Building, this service and equipment could be replaced with a smaller ampere service and panelboard. One of the branch fusible switches in this gear serves power to a 3-section Motor Control Center located on the main floor, labeled MCC-1.

MCC-1 is a Siemens Motor Control Center Model 90. It appears that the panelboard and transformer located in the third section are the only load, and a breaker in the second section that feeds a remote starter panel labeled Sump Pump Control Panel. MCC-1 is in fair condition. Most of the equipment in this MCC is not in use, and does not pose a great deal of hazard to the plant operations. (See figure 2).

B. Newer Influent Pump Station

The newer Influent Pump Station was added on to the Noland WWTP sometime around 2006-2008. This building is fed from transformer labeled T101 that is a 750 kVA 12.47 kV primary, 480 V 3 phase secondary receiving power from the Switchgear 101, S-1, S-3.

This outdoor switchgear and transformer provide power to the main switchboard -102-main located in the Influent/Headworks Building, Switchboard-102-Main consists of four sections of gear. This first section houses the 1600 A frame, GE Power Break II Circuit Breaker with a 1200 amp rating plug. This breaker protects all equipment in this building. In the top part of this section is the GE PQM II Power Quality Monitor.

The second section of this switchboard houses (18) 3 pole breakers of various amperages for equipment and a 400A 3 pole breaker that serves power to MCC-101 and also has a built-in transient voltage surge suppressor in the lower portion of this section, (See Figure 3 and Figure 3A.).

The third section of this switchboard houses (18) 3 pole breakers of various amperages for equipment.

The fourth section of this switchboard houses (18) 3 pole breakers of various amperages for equipment.

This switchboard is in excellent condition and replacement parts are still available.

MCC-101 that is fed from the Switchboard-102-main section 2, 400A main breaker, feeds main lugs only to section 1 of MCC-101. This Motor Control Center is a GE Evolution series E9000, 600 amp rated horizontal bus and 300A vertical bus, 480 volt 3 phase 60 Hz. This MCC is also equipped with analog volt meter, amp meter and transient voltage surge suppressor (TVSS).

MCC-101 has (6) total sections in the line-up. See Figure 3 & 3A for equipment placement and space available for future use. This MCC is in excellent condition and replacement parts are still available.

MCC-101 Cat. No. 0C62X0291L03

Diagram No. 33985066

600A Horiz. 300A Vert.

480 volts 3 Phase 60 Hz

Plant MM

Bus Short Circuit Rating 65,000 amps.

The Allen Bradley Custom Panels are shown on Figure 3 & 3A. They utilize Allen Bradley 1336 Plus Variable Frequency Drives with Bypass Contactors in the event of a drive failure. Two of the influent pumps 101 and 102 are controlled by this method and fed from switchboard 102-main section 3.

The remaining influent pump 103 is controlled by custom GE ASTAT-Plus solid-state soft starter with bypass contactors, and fed from switchboard 102-main section 4.

In summary, this equipment is in excellent condition, outside of the drive (VFD) issues on RWW-P-101 which can be retrofitted with necessary modifications since it is a custom built standalone enclosure.

The only power issue is, only one transformer serves this building and there is no redundancy for a tie breaker switch in the event of transformer failure.

C. Original (Primary) Influent Pump Station No.1

The Original Primary Influent Pump Station No. 1 is part of the 1984-1985 Wastewater Treatment Plant Improvements. This building along with the Generator Building is the most important building to maintain electrical service to.

This building receives power from the 12.5 kV primary power switchgear. This switchgear receives power from the Ozarks Electric service pole just north and west of the Administration Building. This load interrupter switchgear serves power at 12.5 kV to transformer PI-1 and transformer PI-2, both transformers are 500 kVA stepping the voltage down to 480/277V, 3 Phase, 60 Hz.

Transformer PI-1 serves power to the normal power side of the 800A rated ASCO Automatic Transfer Switch, and the load side of this switch serves power to MCC PI-1, and the emergency side of this ATS receives emergency power from a 400 KW, 480/1227V, Cummins diesel powered generator. (See Figure 4 & 4A).

Transformer PI-2 serves power to MCC PI-2, the 400 KW diesel generator is set up to provide power via a key interlock tie breaker switch located between MCC PI-1 and MCC PI-2. This tie breaker switch allows the operator to energize both of the Motor Control Centers, MCC-PI-1 and MCC-PI-2 in the event either one or both transformers PI-1 and PI-2 fail or are without 12.5 kV power. The 400 KW generator is capable of an output of 602 amps full load. The generator and ATS are in good condition.

MCC-PI-1 is a General Electric 8000-line Motor Control Center built and commissioned into service sometime around 1985. This MCC consists of four sections of gear. The main breaker is an 800A General Electric key interlock breaker. This breaker is no longer available and is crucial to the operation of this Motor Control Center, and the loads associated with this gear for normal operation. (See Figure 4 & 4A).

MCC-PI-2 is a General Electric 8000-line Motor Control Center built and commissioned into service sometime around 1985. This MCC consists of five sections of gear with a 600A keyed interlock switch adjoining MCC PI-1 and MCC PI-2 enabling the two to be tied together during outages. The main breaker located in section 1 is an 800A General Electric key interlock breaker. This breaker is no longer available and is crucial to the operation of this Motor Control Center, and the loads associated with this gear for normal operation. (See Figure 4 & 4A).

It is important to note MCC PI-2 serves power to the Administration Building allowing this building to be energized from the 400 KW generator and automatic transfer switch via the 600A tie breaker in the event of power failure.

The General Electric 8000-line is one of the most commonly found GE low voltage Motor Control Centers in operation in the United States today and is easily distinguishable by its signature rounded red handle operators. GE 8000 low voltage Motor Control Centers typically have a very long life span.

The MCC structures and internal buswork almost always outlive the life of the individual buckets, which are prone to breakdowns and obsolescence.

There are companies that recondition direct replacement MCC buckets for the GE 8000-line Motor Control Center, and they can upgrade to an intelligent motor control such as Devicenet, Profinet, or Ethernet.

Generally, the issues around this type of option is space for VFD's and bypass contactors, and you still have a 35-year-old MCC structure and internal bus.

Another issue for rebuilt and reconditioned equipment is backordering and long lead times for hard to find manufacturer discontinued equipment.

Options for upgrading MCC PI-1 and MCC PI-2 are as follows:

Option 1: Retaining the existing MCC's by retrofitting and reconditioning the individual buckets; as in the case of RWW-P-01-1-1, the breaker in section 2 of MCC PI-1 serves power to 3 sections of custom Allen Bradley, VFD with bypass contactor located adjacent to the MCC. This method allows for starters and controls to be located outside the MCC and utilize the main pump breaker as the source of power. This option can provide for a new up to date motor starter and controls but still leaves you at the mercy of the older pump breaker.

Option 2: Would be to replace the existing Motor Control Center with new available MCC sections to accommodate VFD's, full voltage starters, solid-state starters and intelligent controls such as Devicenet, Profinet, or Ethernet. This option would have to be done rather quickly to allow for whole MCC's to be replaced at one time to keep plant operations going.

Another approach would be, if space allowed, new MCC to be energized and placed near the old MCC and move loads one at a time to new MCC sections. This method would be the most expensive option but in the long run all new equipment would be in place in the end and could be designed to meet Arc Flash requirements.

D. Aeration Basin Building

The Aeration Basin structure is part of the 1984-1985 Wastewater Treatment Plant Improvements and is a major part of the plant operations. The electrical service at this structure serves power to other facilities, buildings and structures.

The aeration facilities receive 12.5 kV power underground from the 12.5 kV primary power switchgear near the 400 KW generator, 12.5 kV primary power underground is then fed into two separate S&C switches, each of these S&C switches feed transformers TX-AB-1 and TX-AB-2. They are 1500 kVA and are equipped with a switch on the secondary side that feeds 480/277V to switchboard AB-1 and switchboard AB-2 with a 1600A tie breaker between them. (See Figures 1, 1A, 5, 5A & 5B).

Low voltage switches LV-AB-1 And LV-AB-2 are disconnect switches built on to transformers TX-AB-1 and TX-AB-2, they serve power through to switchboard AB-1 and AB-2 via 2000 amp service entrance Busway. The age of this equipment is not as reliable after years of service due to load, stress, U.V., and weather. The Busway feeding AB-2 has been replaced at some time. Busway should be checked periodically for torque at each joint due to temperature changes. The recommendation for this service entrance would be to replace both service entrance feed with conduit and conductors, with no splices in cables, which would reduce the number of connections to two per service entrance. In addition, switchboard AB-1, AB-2 and the tie breaker could be located outside just north of the transformers in a weather proof enclosure eliminating the need for LV-AB-1 and LV-AB-2 and utilize the existing switchboard location to interconnect associated equipment.

Switchboard AB-1, AB-2 and the tie breaker switch allows this structure to be fed from either transformer TX-AB-1, or TX-AB-2. This switchboard is critical to the operation of the plant. It serves power to MCC AB-1, MCC AB-2, MCC AB-3, and MCC AB-4 located in the Aeration Building and the two MCC FB-1 and MCC FB-2 located at the Filter Building.

This switchboard is a GE AV-line switchboard, 3 phase 480V, 3 wire, 60 Hz, 2000 amp, 35,000 amp short circuit rating. (See Figures 5 & 5A). This type of switchboard is no longer manufactured by General Electric. There are however, companies that specialize in refurbished breakers and mounting equipment but they will not have the Arc Flash mitigation used today. In addition, new breakers would be equipped with full range of overcurrent and ground fault protective functions, along with advanced metering communications and protective relaying options. In summary, this switchboard is heavily relied upon for service and would definitely be a part of the electrical to replace with new equipment.

The following Motor Control Centers MCC AB-1, AB-2, AB-3 and AB-4 are located in the Aeration Electrical Room serving the various motors, pumps and equipment within this structure.

The MCC's are GE 8000-line sections put into service sometime during the Wastewater Treatment Plant Improvements 1984-1985. As mentioned previously this line of gear is the most common Motor Control Center in operation and typically has a very long life for the structure and internal bus that outlives the individual buckets.

Since the manufacture of this gear, MCC's have become more compact in design allowing different types of starters, I.E.C. overloads, VFD's, solid-state starters to be installed in buckets of smaller stature. In addition, the newer MCC's allow for and can be constructed with newer Arc Flash requirements.

Many of the existing buckets have been taken out of service except for the breaker protecting that particular bucket and used to feed an open chassis VFD as shown on Figure 5. This approach works well if there is enough wall space, the only drawback is the conduit and conductors required to go to and from the MCC and drives.

One of the advantages when replacing the MCC's is that they can be isolated and shut off during changeover without de-energizing all four MCC's at once, enabling most of the operations to continue. Costs for replacement of each MCC is between \$40,000 and \$60,000 depending on types of motor starting and control. We would recommend replacing these units in the near future.

When replacing the main tie breaker switchgear, a portable generator or more than one can be brought in and temporarily feed the individual existing MCC's to maintain operation of the existing Aeration Building and Filter Building by connecting to their main-lug-only (MLO) incoming line buckets. This approach has to be a coordinated effort with the new switchgear on site and ready to remove old equipment and install the new equipment in a timely fashion. Typical costs for switchboards in the arrangement at the Aeration Building, 2000 amp main breaker sections with ground fault protection are in the \$25,000 to \$30,000 dollars not including switchboard

instruments. Additional 800A and 300A breakers are in-between \$3,500 and \$6,000 dollars.

E. Ozone Equipment Building (Former Chlorination Building)

The Ozone Building is part of the 1984-1985 Wastewater Treatment Plant Improvements. This building was originally used for chlorination process, U.V. and finally ozone generation.

This building has undergone several renovations. Much of the existing electrical equipment is still in place but not utilized with the addition of and need for more power at this facility.

The original building is fed from a breaker located in MCC AB-3 Aeration Building and is still in service. This breaker feeds CBPP, which at some time was replaced with a newer SQ-D 480 V, 3 phase, panel.

With the addition of the U.V. system, power needs increased and two (2) new transformers were installed just west of the building transformer No.1 and No. 2 (East/West) and being fed from the 12.5 kV switches located at the Aeration Basin Building. These two transformers are 500 kVA. (See Figure 6 and Figure 7).

The two transformers provide power to DP-1 General Electric Spectra Series Outdoor Switchboard. This switchboard is a split bus with two 600A main keyed interlock breakers and one 600A keyed interlock tie breaker to allow the entire panel to be fed from the transformer No.1 or No.2. This panel has only one space available. In addition, the feeders to the two U.V. disconnects are still in place but taped off and not used. The new ozone equipment was added and additional breaker panels were added to serve the new ozone equipment detailed on Figure 6 & 6A. All of the newer equipment is current and breakers available.

The DP-1 would need to be replaced if the City would want to or need to utilize the decommissioned U.V. Disinfection for emergency use, without having to land the existing feeders to the DP-2 and DP-3 breakers that currently feed ozone equipment.

All of the newer breakers, panels, disconnects, and transformers are in excellent condition.

F. Former Chlorine Contact Basin and Post Aeration Basin

The Post Aeration Basin is part of the 1984-1985 Wastewater Treatment Plant Improvements. This structure has had additions and improvements and all of the electrical equipment is in excellent condition.

This structure receives power from two locations. The Ozone Building DP-1 feeds distribution panel DP-4 for off gas destruct units and MCP-08 as shown on Figure 7. In addition, the abandoned Trojan U.V. system is still in place and operational. The existing feeds are underground to DP-1.

The structure also receives power from the Filter Building MCC's FB-1 and FB-2. The post aeration aerators and low voltage equipment are fed from MCC's FB-1 and FB-2.

G. Administration Building and Equipment Storage Building

The Administration Building receives its power from the original Primary Influent Pump Station No.1 which is also backed by the 400 KW generator. There is a 200 amp, 3 pole, 480V disconnect that serves power to a 112.5 kVA, 120/208V, 3 phase step down transformer, General Electric Model 9123 G 3875 with 5% impedance, dry type. From the transformer, a Nema size 5 contactor with bypass feeds the lighting panels ADLP-1, ADLP-2 and EMLP. This equipment is still serviceable and in good condition. (See Figure 8).

The Equipment Storage Building receives its power from the Filter Building MCC FB-1 Section 3 labeled ESPP, Equipment Storage Power Panel. This is a GE 480 volt, 3 Phase, 80 amp main, NHB panel. The Breakers in this panel are discontinued but can be purchased used, and in some cases as new surplus, costs per breaker can be as much as \$200.00 each. (See Figure 8).

H. Filter Building

The Filter Building is part of the 1984-1985 Wastewater Treatment Plant Improvements and receives power from the switchboard AB-1 & AB-2 located in the Aeration Basin Electrical Room. There is a 300A breaker in AB-1 & AB-2 that feeds MCC FB-1 and MCC FB-2. In addition, this allows either Motor Control Center to have its load on switchboard AB-1, AB-2 with the breaker closed on one of the transformers located at the Aeration Basin.

The MCC FB-1 and MCC FB-2 are GE 8000-line Motor Control Center. MCC FB-1 has 4 Sections with a 300A main breaker in Section 1 and MCC FB-2 has 3 Sections with a 300A main breaker in Section 1. This equipment is in fair condition. Refurbished or reconditioned buckets are still available but have long lead times and are still expensive, if they can be found.

To replace MCC FB-1 and MCC FB-2 would not be as difficult if the Filter Building equipment could be operated off one MCC at a time. Some temporary conductors may need to be installed to maintain some of the operations during changeover. In this instance, a new MCC would be more economical than to refurbish this equipment. Typical costs for these MCC's are \$16,000 to \$24,000 per MCC. (See Figure 9 & 9A).

There is a new 480/277V panel labeled PP-FB that is a GE A Series II with a built-in transient voltage surge suppressor. This panel is of current construction and breakers and parts are still available.

I. Solids Dewatering Building

The Solids Dewatering Building was built sometime around 2004 Wastewater Treatment Plant Improvements. This building is fed power from the Blower Building switchboard B-1 and B-2. Each switchboard has a 600A, 3 pole breaker that serves power to MCC-201 and MCC-202 individually. Switchboard B-1 and B-2 are fed from separate transformers at the Blower Building with a 1600A tie breaker switch to shift all load to one transformer if necessary. In addition, the Motor Control Centers have the capability of running off one of the service feeders by utilizing the 600A tie breaker switch between MCC-201 and MCC-202 in the event one of the 600A main breakers in switchboard B-1 or B-2 failed. (See Figures 10,10A, and 12,12A).

The Motor Control Centers MCC-201 and MCC-202 are of the newer GE Evolution Series E9000 and are of current construction. Parts such as breakers, pilot lights, switches starters are still available. For the most part MCC-201 and MCC-202 are breakers in tandem buckets that feed remote starters and controls. The equipment is in excellent condition and should provide good service for several years.

J. Digested Sludge Pump Station

The Digested Sludge Pump Station is part of the 1984-1985 Wastewater Treatment Plant Improvements. This building receives power from the Blower Building switchboards B-1 and B-2. Each switchboard is equipped with a 400A, 3 pole breaker. Switchboard B-1 400A breaker feeds MCC DS-1 400A main in Section 2. Switchboard B-2 400A breaker feeds MCC DS-2 400A main in Section 1. There is not a tie breaker switch between the two Motor Control Centers.

MCC DS-1 has 4 total Sections of MCC. The two original sections 1 and 2 are GE 8000-line gear approximately 35 years old and they contain the Digester Sludge Pumps designated P-07-18-1 and P-07-18-2 starters, still in service. Sections 3 and 4 are newer sections of MCC GE 8000-line gear. They were added for WAS Pumps P-401 and P-402. In addition, there are two larger starters in Section 3 and 4 shut off and not labeled but are possibly the original digester feed pumps. Waste activated sludge pumps designated as WAS-P401, WAS-P402 are breakers only in the MCC sections and serve power to the remote wall mounted Allen Bradley custom VFD cabinets with bypass contactors.

MCC DC-2 has 2 total sections of MCC and are original GE 8000-line gear approximately 35 years old. Section 1 contains the 400A main breaker and digester sludge pump P-07-18-3. Section 2 contains the breaker that feeds WAS-P-403 and VFD with bypass contactor. (See Figure 11). The Digester Sludge Pump buckets are probably the most crucial as far as replacing starters is considered. If space in the Electrical Room allowed, standalone combination starters would be considered.

The Motor Control Centers could be removed and two 400A distribution panels with breakers put in their place to feed the remote panel starters as in the case of the waste activated sludge pumps. In addition, a new section of MCC could be installed to feed the existing supply fan and any future size 1 starters needed. This would eliminate the issues associated with the discontinuation of Motor Control Center models.

Typically, distribution breaker panels are less expensive than Motor Control Centers.

K. Blower Building

The Blower Building is part of the 1984-1985 Wastewater Treatment Plant Improvements and is a major part of the plant operations. The electrical service at this location serves power to other facilities, buildings, and structures.

The Blower Building receives 12.5 kV power underground from the 12.5 kV primary power switchgear near the 400 KW generator at the Primary Influent Building, from there 12.5 kV underground to the primary load interrupter-2 at the old Operations Building and then to TX-B1-P and TX-B2-P primary switches bolted to transformers TX-B1 and TX-B2. (See Figure 1, 1A, 4, 4A, 12 and 12A).

Low voltage switches labeled LV-B1 and LV-B2 are bused and bolted to transformers TX-B1 and TX-B2. The low voltage 2000 amp switches utilize overhead and weather

proof 2000 amp service entrance Busway to bring power to switchboard B-1 and B-2. The age of this Busway is not as reliable after years of service due to load stress, U.V. and weather. Busway should be checked visually on a regular basis. Splice joints are especially prone to corrosion damage and joint failure. Even after joints dry out after being contaminated, the corrosive effects continue.

Maintenance should always test connections for proper torque. Arcing can occur between the plate surfaces due to poor connections or after water or other liquids enter the spaces between loose plate connections. This type of damage can increase the contact resistance of the joints and eventually cause overheating or worse arcing faults. Infrared thermography can detect potential failures for repair before an event causing a building outage. The recommendation for this service entrance would be conduit and conductors in place of Busway. It should be noted that the Busway at this location is mounted vertically and sealed which prevents many issues when compared to horizontal mounted Busway.

The two switchboards fed from each Busway just inside the Electrical Room are GE AV-line switchboard. Switchboard B-1 480Y/277 volt, 3 Phase, 4 wire, 60 Hz, 2000 amp supply, 2000 amp neutral with short circuit rating 30,000 RMS SYM, amps at 480 volt. The Switchboard B-2 is the same rated gear.

Switchboard B-1 contains one 2000 amp main breaker that is a GE power break keyed interlock style, This breaker is located in Section 1, and the bottom half of this section contains two additional breakers, a 400A 3 pole designated for MCC DS-1 in the Digested Sludge Pump Station, and a 600A breaker designated to MCC-201 Sludge Dewatering Building. Section 2 of switchboard B-1 contains a 1600 amp tie breaker that is a GE power break keyed interlock style to connect switchboard B-1 to switchboard B-2. Located in the bottom half of Section 2 a GE 1600A main breaker, GE power break that serves MCC-B-1.

Switchboard B-2 contains one 2000 amp main breaker that is a GE power break keyed interlock style. This breaker is located in the upper half of Section 1, and the bottom half of this section is empty. Section 2 of switchboard B-2 is a panelboard section, and contains a 400A, 3 pole breaker that serves MCC B-3 and a 400A breaker that serves MCC DS-2 in the Digested Sludge Pump Station. A 1200A GE Versa trip breaker serves MCC B-2 Blower Building, and a 600A breaker that serves MCC 202 Sludge Dewatering Building.

MCC B-1 contains 8 sections of Motor Control Center and (3) three 300 HP reduced voltage autotransformer starters and (1) one 15 HP RVATS.

MCC B-2 contains 7 sections of Motor Control Center and (2) two 300 HP reduced voltage autotransformer starters and (2) two 15 HP RVATS.

MCC B-3 contains 2 sections of Motor Control Center and (2) two 75 HP full voltage starters and (2) two 3 HP full voltage starters, and (1) one 30A 2 pole breaker for low voltage 120/240V power.

The three MCC are all GE 8000-line put into service sometime in 1984-1985. The motor starters are 35 years old and most parts are not manufactured in this configuration, but there are reconditioned parts available.

12.47 kV Inventory

4/0 AWG URD-AL, 15 kV

#2 AWG URD-AL, 15 kV

Switching Station – Powercon Corp. IPS1 – 3 Bay (Near old Primary Influent Building)

Switching Station – Powercon Corp. S0B – 3 Bay (Near old Operations Building)

Switchgear – 101 pad – S&C Vista (Near old Primary Influent Building)

(2) Switchgear – S&C PMH-19 (In front of Aeration Basin)

(2) Transformers – 500 kVA GE 12470 – 480Y/277 Volt (PI-1 and PI-2)

(2) Transformers – 1500 kVA GE 12470 – 480Y/277 Volt (AB-1 and AB-2)

(2) Transformers – 500 kVA ALFA 12470 – 480Y/277 Volt (For Ozone Building)

Transformer – 750 kVA Prolec 2006, 12470-480Y/277 Volt (T101)

Transformer - 500 kVA GE 12470-480Y/277 Volt (Near old Operations Building)

(2) Transformers – 1500 kVA GE 12470 – 480Y/277 Volt (BB-1 and BB-2)

Summary

12.47 kV

Replace underground cable

Replace switching station near old Primary Influent Building

Replace switching station near old Operations Building

Replace two transformers PI-1 and PI-2 – 500 kVA each

Replace two transformers AB-1 and AB-2 – 1500 kVA each

Replace two transformers BB-1 and BB-2 – 1500 kVA each

480 V

The central part of this service is in switchboard B-1 and B-2 because the switchboards serve other facilities. The recommendation for this building would be to either upgrade both switchboards and breakers with Arc Flash attenuation, or at a minimum stock reconditioned breakers as follows:

Switchboard B-1, B-2 Blower Building Inventory of key main breakers

(2) 2000A GE Power Break Keyed Interlock (Mains)

(1) 1600A GE Power Keyed Break Interlock Tie Breaker

- (1) 1600A GE Power Break Main
- (3) 400A GE Main
- (1) 1200A GE Main
- (2) 600A GE Main

The switchboard located at the Aeration Basin Building contains the following inventory of key main breakers:

- (2) 2000A GE Power Break Keyed Interlock (Mains)
- (1) 1600A GE Power Keyed Break Interlock Tie Breaker
- (4) 800A GE Versa Trip Mains
- (2) 400A GE Mains with 300A Trip Modules

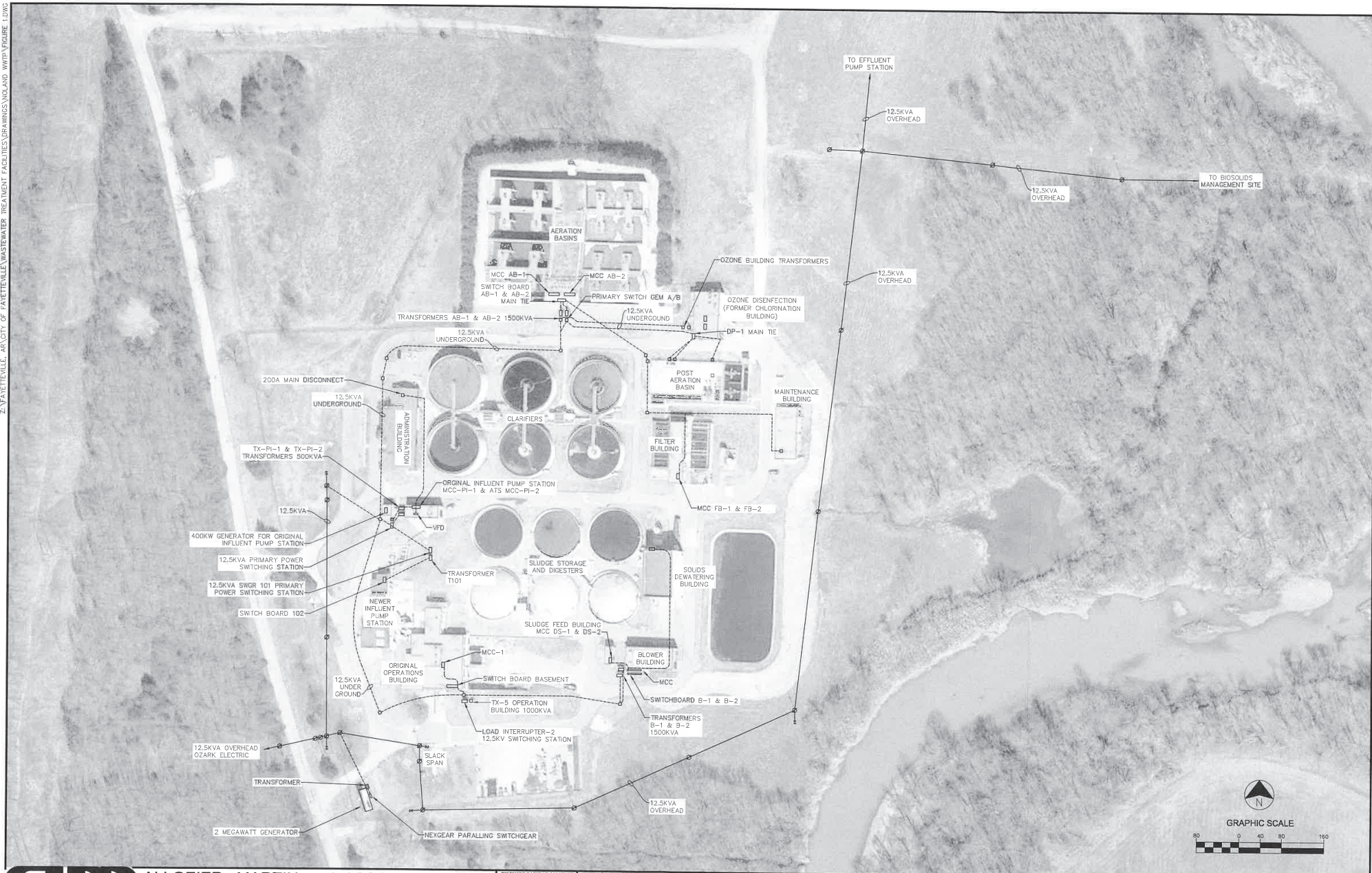
Reconditioned breakers to keep on hand if replacement is not an option:

- (1) 2000A GE Power Break Keyed Interlock
- (1) 1600A GE Power Break Keyed Interlock
- (1) 800A GE Versa Trip
- (1) 600A GE Versa Trip
- (1) 400A GE Versa Trip

The two main locations with this style of switchboard would allow the City to keep on hand a minimal amount of breakers.

The 2000 amp GE power break with key interlock are the most expensive and this plant has four of them. Approximate cost for a reconditioned breaker is \$16,000 with a 1 year warranty. Sometimes new surplus can be found but is often times \$20,000 to \$30,000. Extreme caution should be exercised to order the correct rating for this type of breakers. Some of them utilize a 100% trip or 80% trip.

Replacing the switchgear is the most expensive option but allows for solid-state circuitry as well as current Arc Flash requirements to be met.



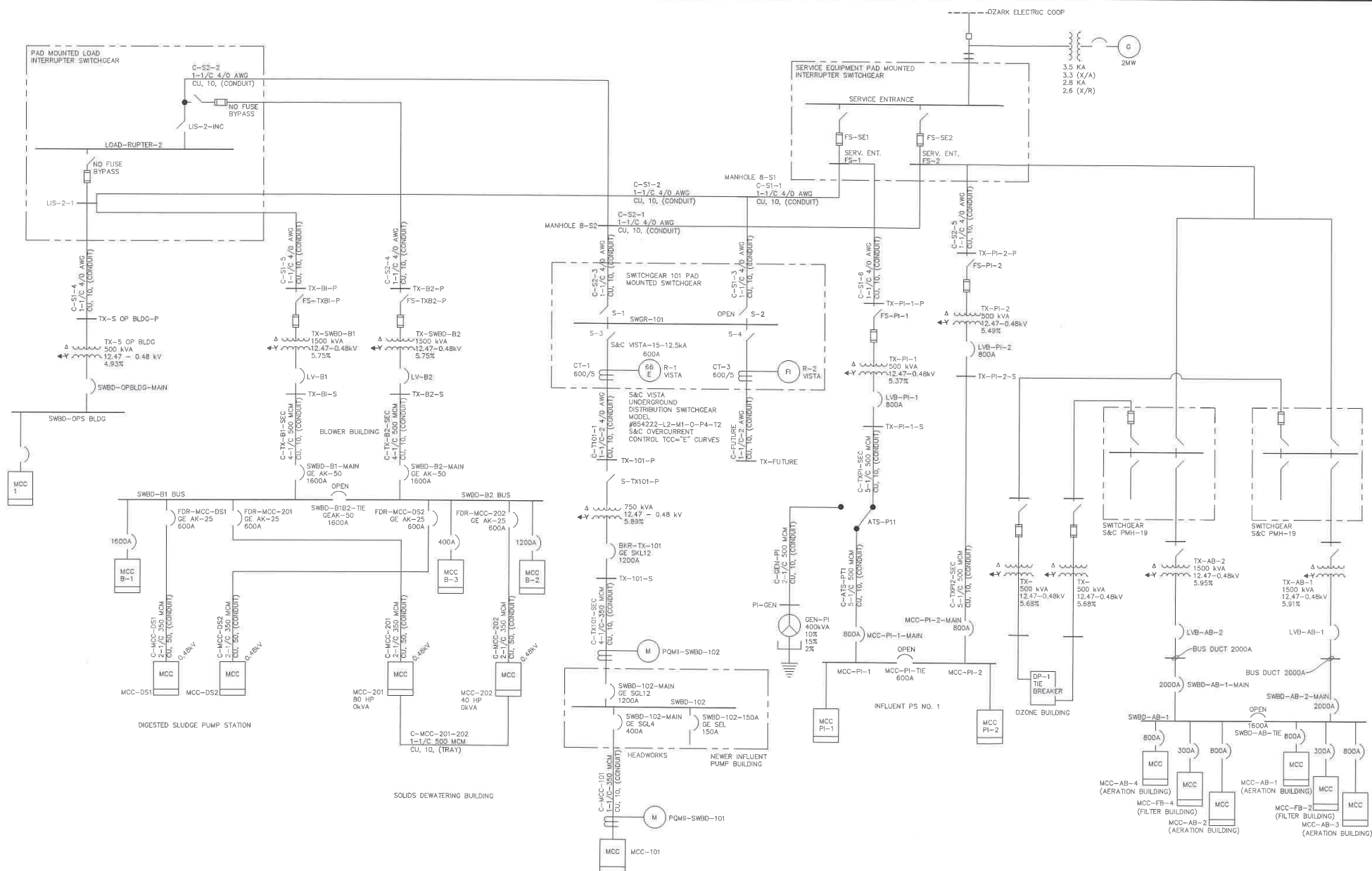
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ELECTRICAL SITE PLAN (FIGURE 1)
NOLAND WWTP ELECTRICAL STUDY
FAYETTEVILLE, ARKANSAS





LABELS MISSING OR UNKNOWN SQUARE-D SAFLEX SWITCHBOARD



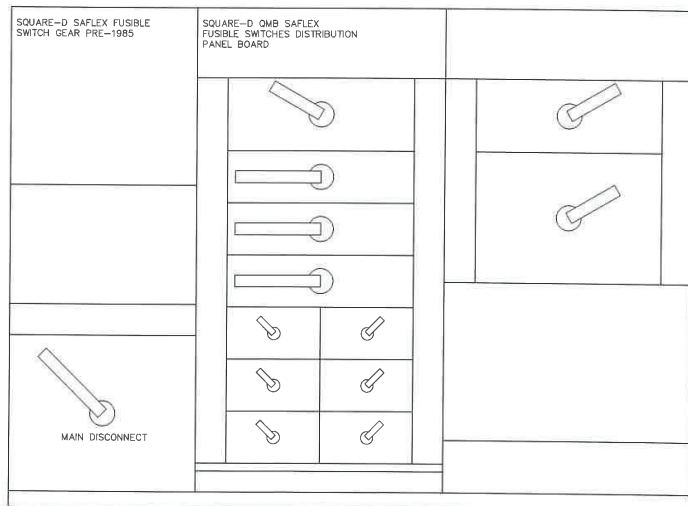
ABANDONED AND DE-ENERGIZED MCC



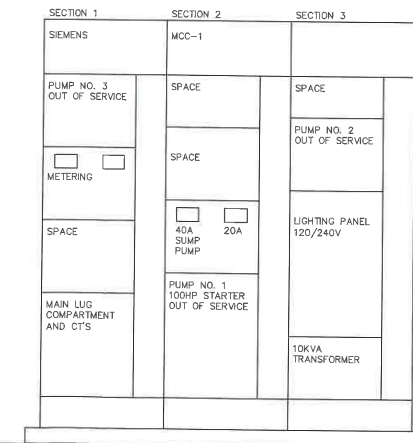
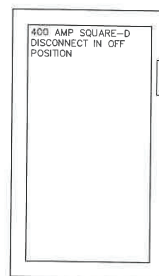
TYPICAL JUNCTION BOXES OPEN



MCC-1 MAIN FLOOR



EXISTING MAIN SWITCHGEAR BASEMENT
N.T.S.



EXISTING MCC-1 MAIN FLOOR
N.T.S.



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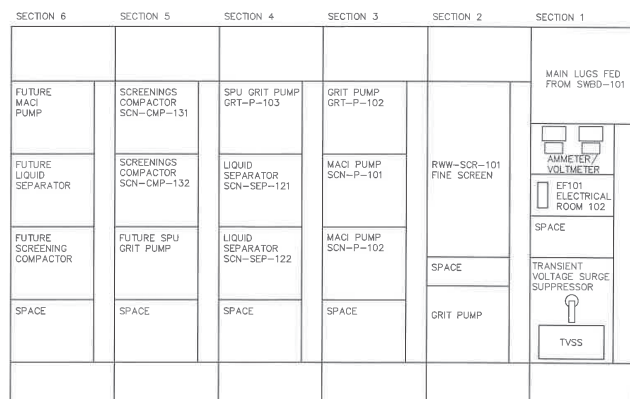
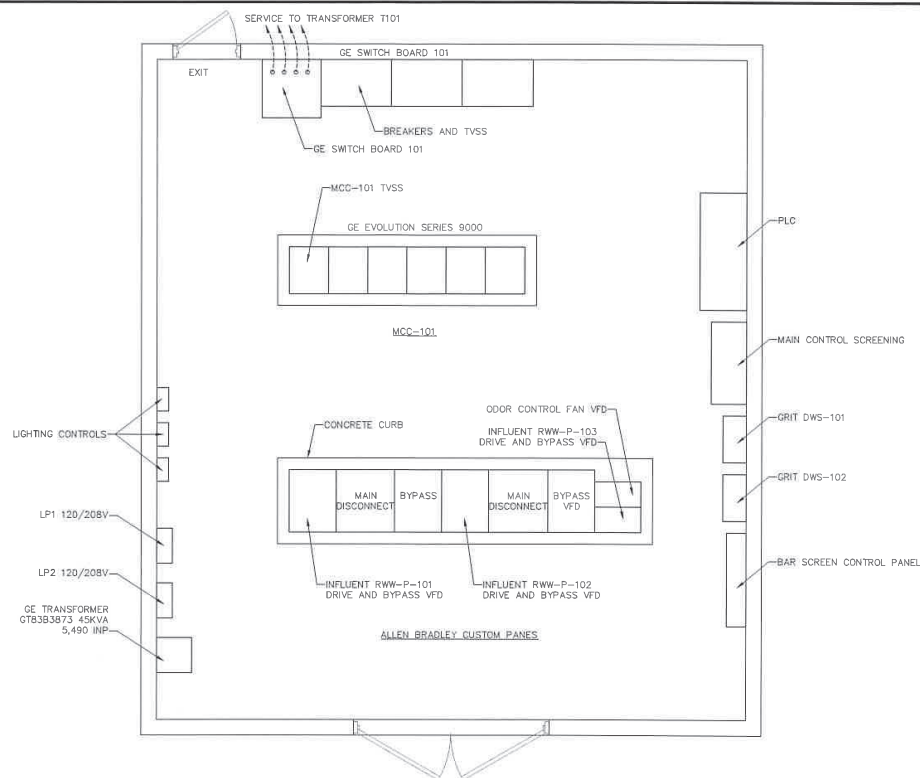
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ORIGINAL OPERATION BUILDING (FIGURE 2)
NOLAND WWTP ELECTRICAL STUDY
FAYETTEVILLE, ARKANSAS

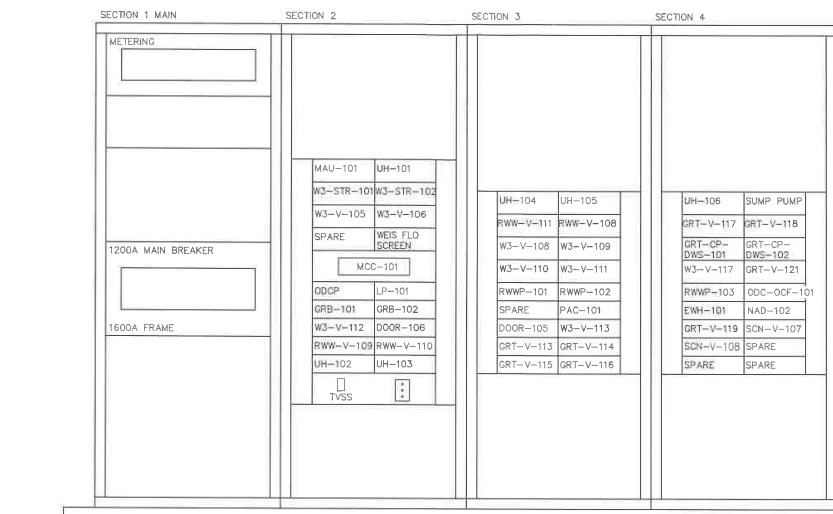
FIGURE NO.

2

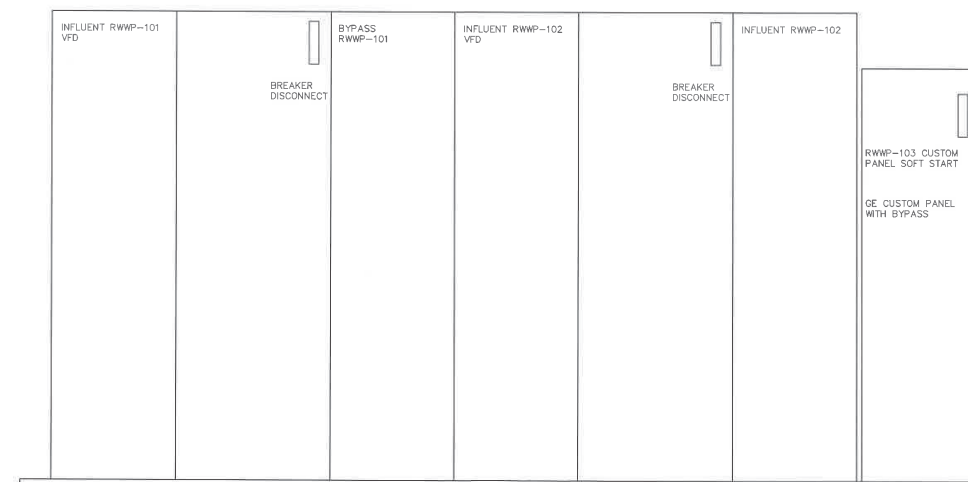
Z:\FAYETTEVILLE, ARKANSAS\WASTEWATER TREATMENT FACILITIES\DRAWINGS\WWTW\FIGURE 3.DWG



GE EVOLUTION SERIES 9000 MCC-101 ELEVATION
BUS SHORT CIRCUIT RATING 65,000 AMPS
N.T.S.



GE SPECTRA SERIES SWITCHBOARD 101 ELEVATION
N.T.S.



ALLEN BRADLEY CUSTOM PANELS RAW WASTEWATER PUMPS
N.T.S.

Z:\FAYETTEVILLE, ARK CITY OF FAYETTEVILLE\WASTEWATER TREATMENT FACILITIES\DRAWINGS\NOLAND WWTP\FIGURE 3.DWG



BACK OF MCC-101 AND CUSTOM VFD PANELS



LIGHTING PANELS, TRANSFORMER AND FIRE ALARM PANEL



CUSTOM VFD PANELS



SWITCH BOARD 101 AND MCC-101



MCC-101



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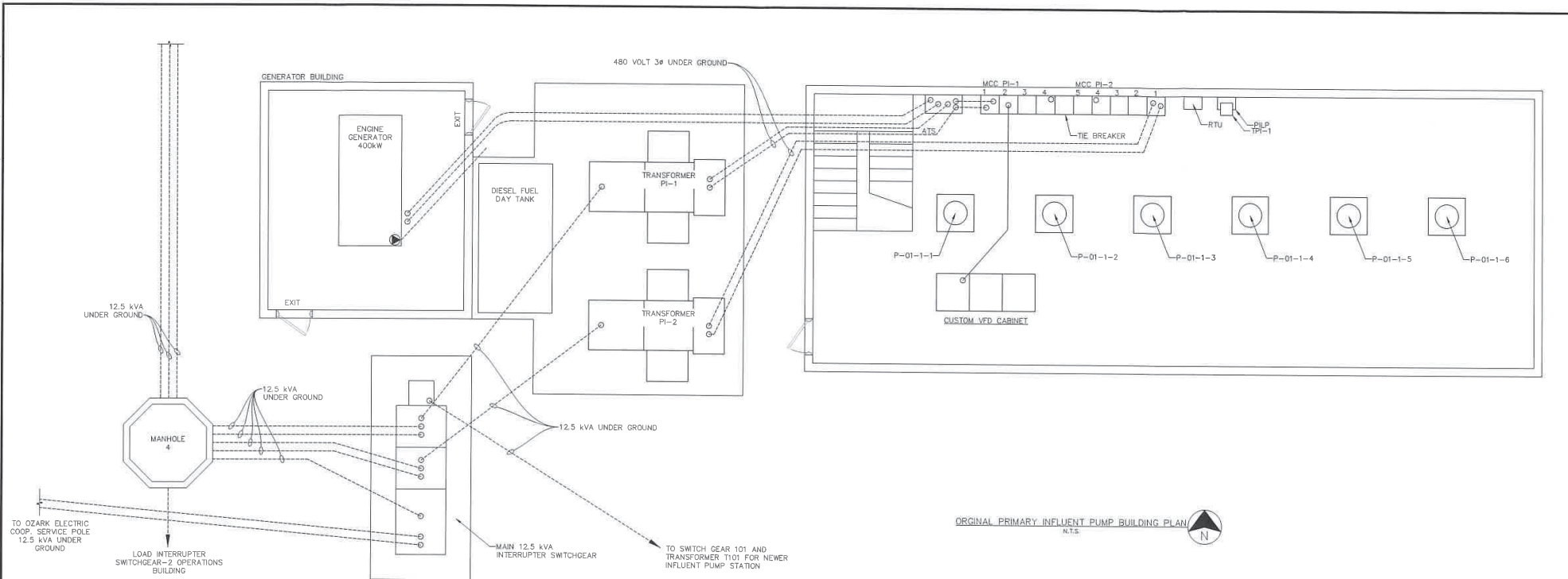
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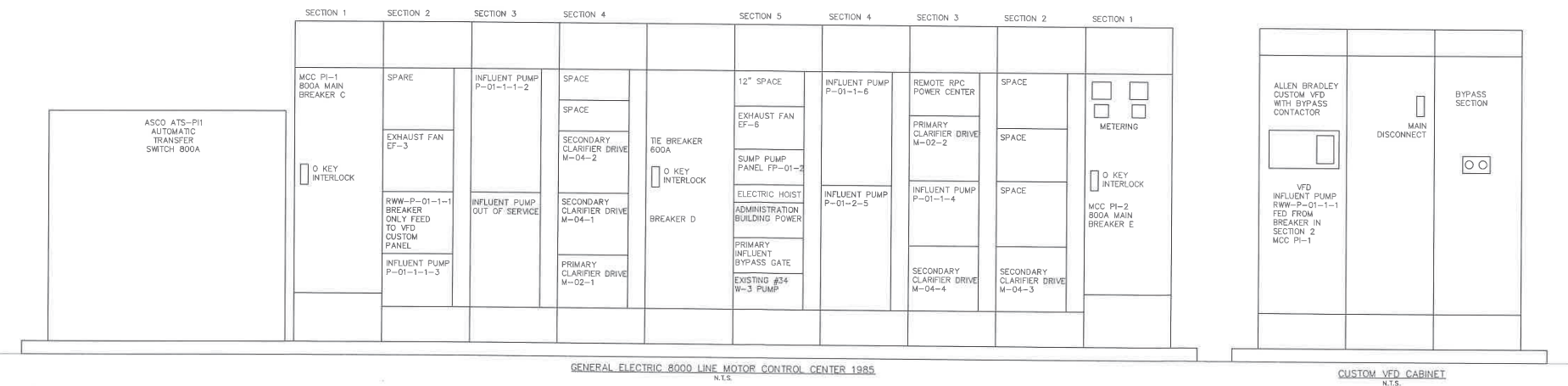
NEWER INFLUENT PUMP STATION (FIGURE 3)
NOLAND WWTP ELECTRICAL STUDY
FAYETTEVILLE, ARKANSAS

FIGURE NO.

3A

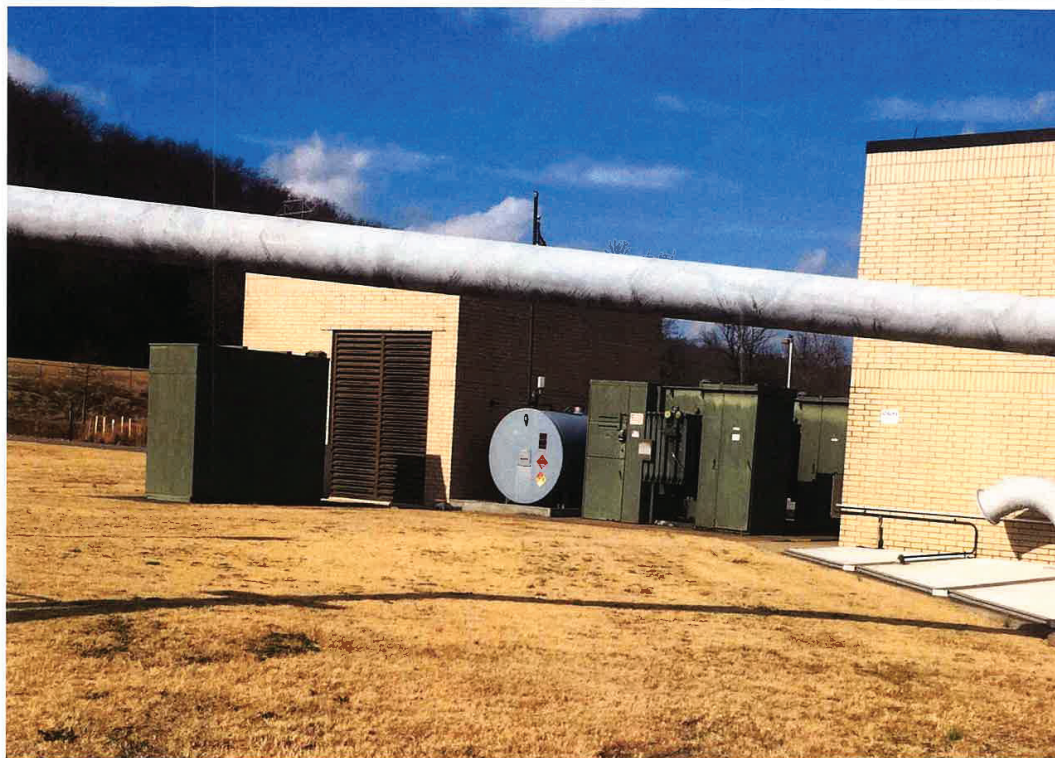


ORIGINAL PRIMARY INFLUENT PUMP BUILDING PLAN
N.T.S.



GENERAL ELECTRIC 8000 LINE MOTOR CONTROL CENTER 1985
N.T.S.

CUSTOM VFD CABINET
N.T.S.



LOOKING NORTHWEST AT PRIMARY SWITCHING STATION AND TRANSFORMERS PI-1 & PI-2



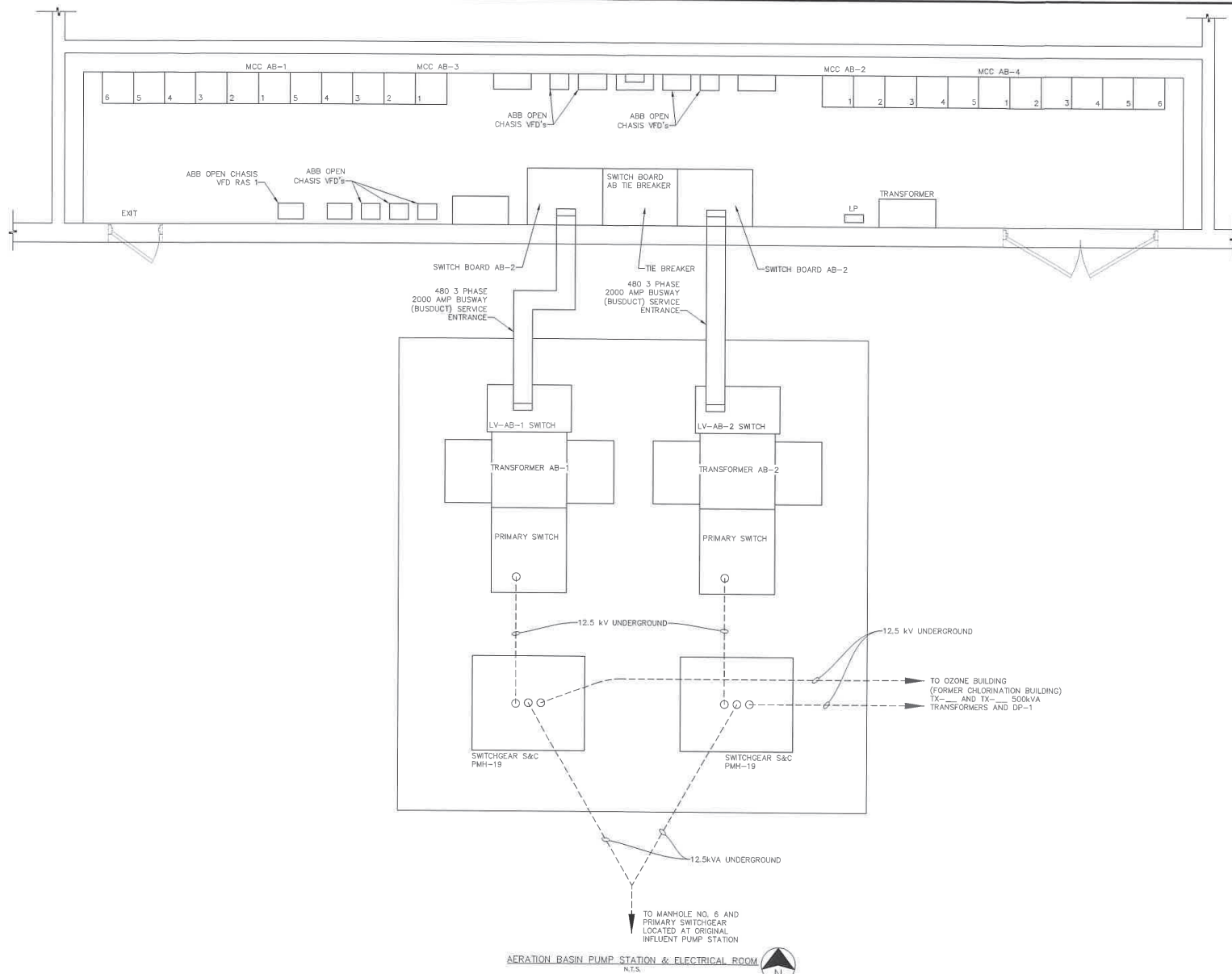
TRANSFORMER & SWITCHES PI-2



MCC PI-1 & PI-2 GE MOTOR CONTROL CENTERS



NEVER ALLEN BRADLEY CUSTOM PANEL FOR RW-P-1-1 INFLUENT PUMP



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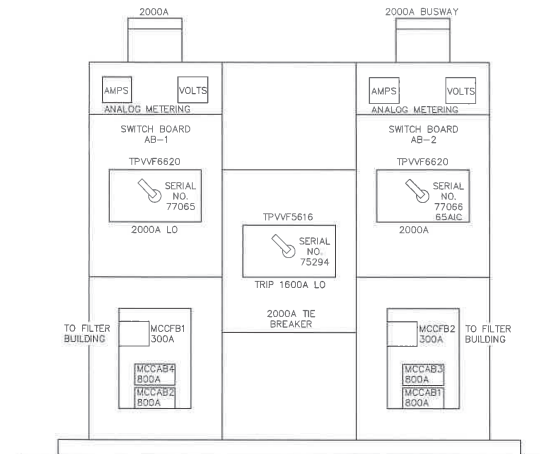
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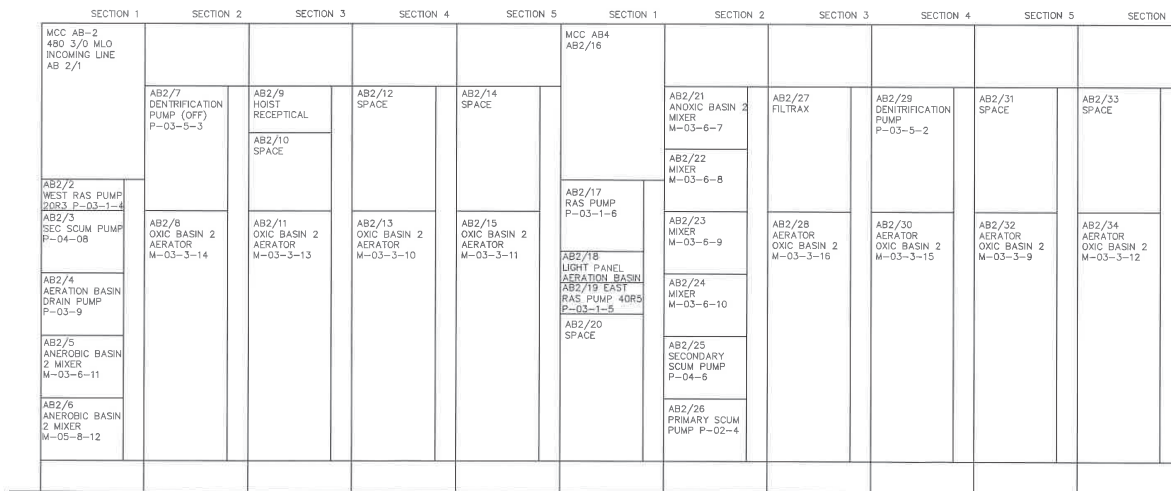
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AERATION BASIN PRIMARY SWITCHGEAR PUMP STATION & ELECTRICAL ROOM POWER (FIGURE 5)
NOLAND WWTP ELECTRICAL STUDY
FAYETTEVILLE, ARKANSAS

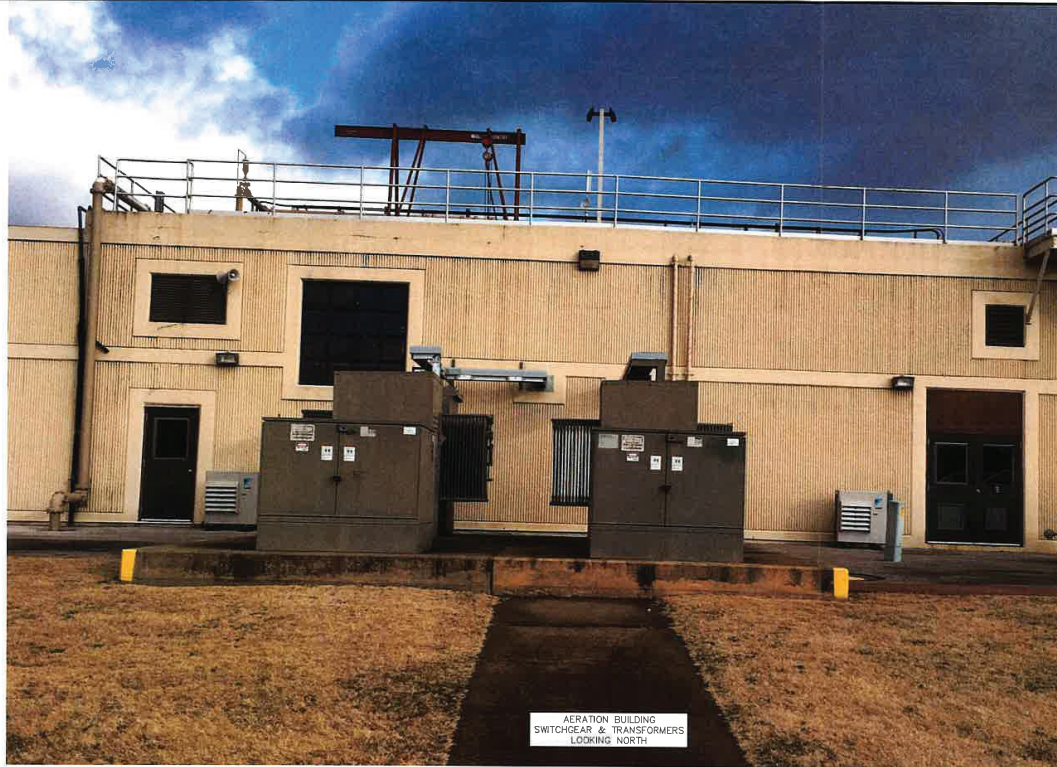
FIGURE NO.
5



MAIN TIE BREAKER SWITCHGEAR AERATION BUILDING
N.T.S.



MCC's AB-2 AND AB-4
N.T.S.



AERATION BUILDING
SWITCHGEAR & TRANSFORMERS
LOOKING NORTH



2000AMP SERVICE ENTRANCE
BUSWAY



OPEN CHASSIS VFD'S



SWITCHBOARD AB-1, AB-2 &
TIE BREAKER



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AERATION BASIN PRIMARY SWITCHGEAR PUMP STATION & ELECTRICAL ROOM POWER (FIGURE 5)
NOLAND WWTP ELECTRICAL STUDY
FAYETTEVILLE, ARKANSAS

FIGURE NO.

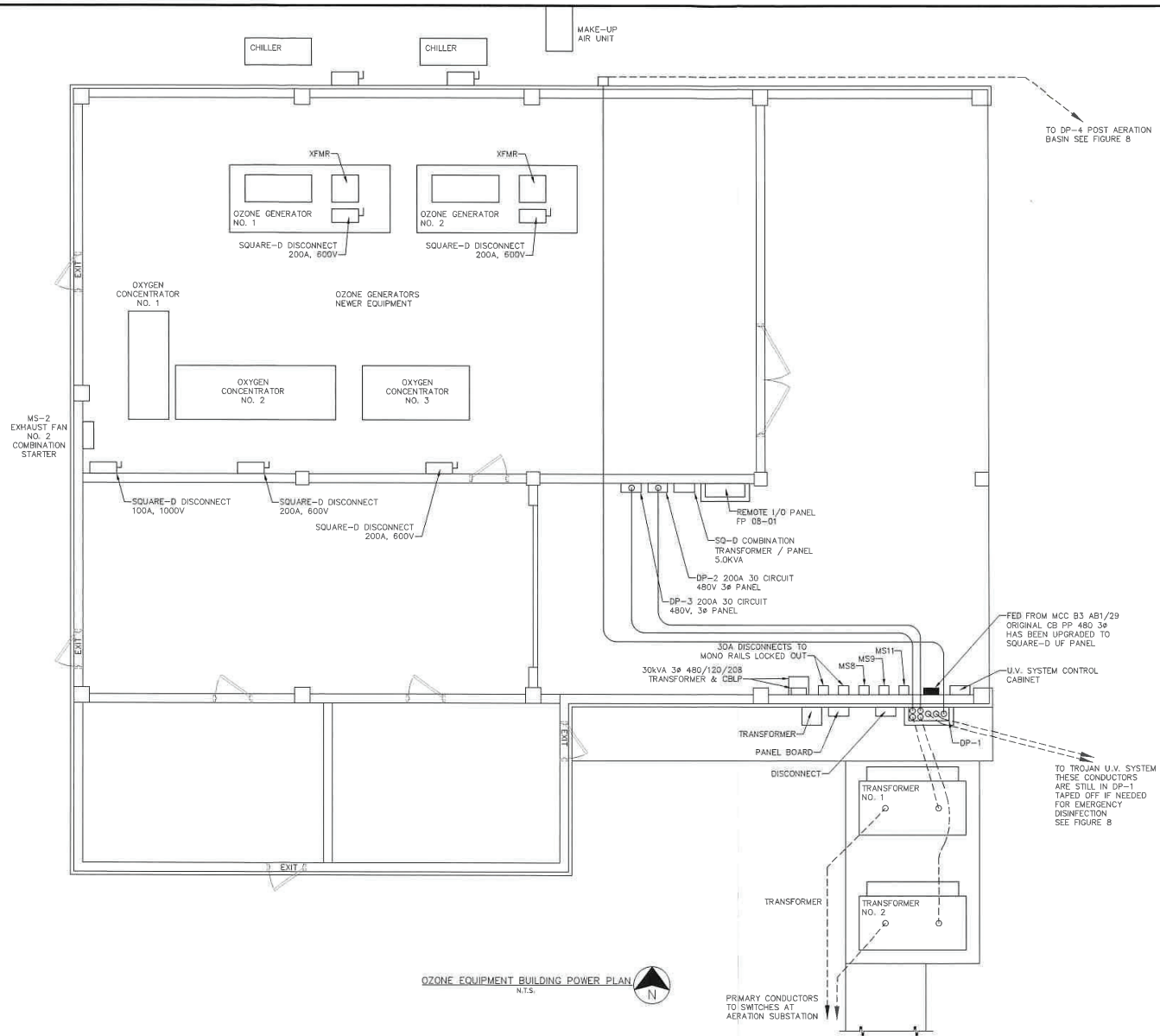
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TRANSFORMER NO. 1, NO. 2 & DP-1



DP-2, DP-3 & REMOTE I/O PANEL FP-08-01



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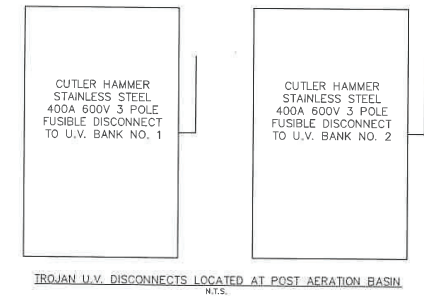
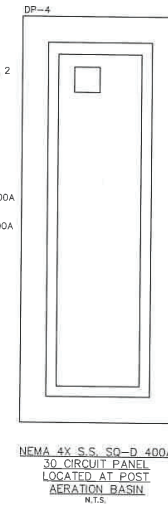
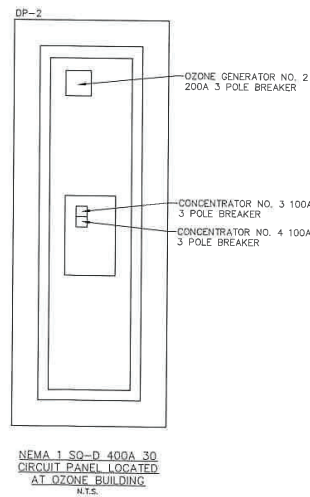
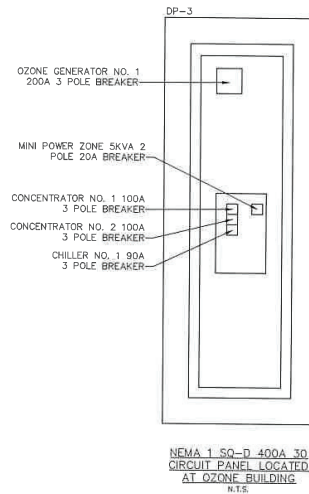
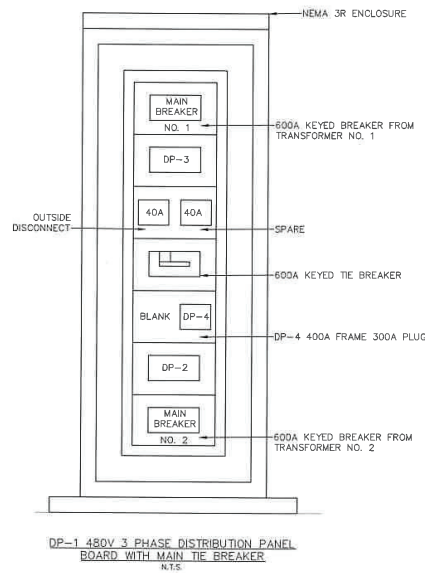
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OZONE EQUIPMENT BUILDING POWER PLAN (FORMER CHLORINATION BUILDING) (FIGURE 8)
NOLAND WWTP ELECTRICAL STUDY
FAYETTEVILLE, ARKANSAS

FIGURE NO.
6



TROJAN U.V. CONTROL PANEL & OLDER ORIGINAL EQUIPMENT



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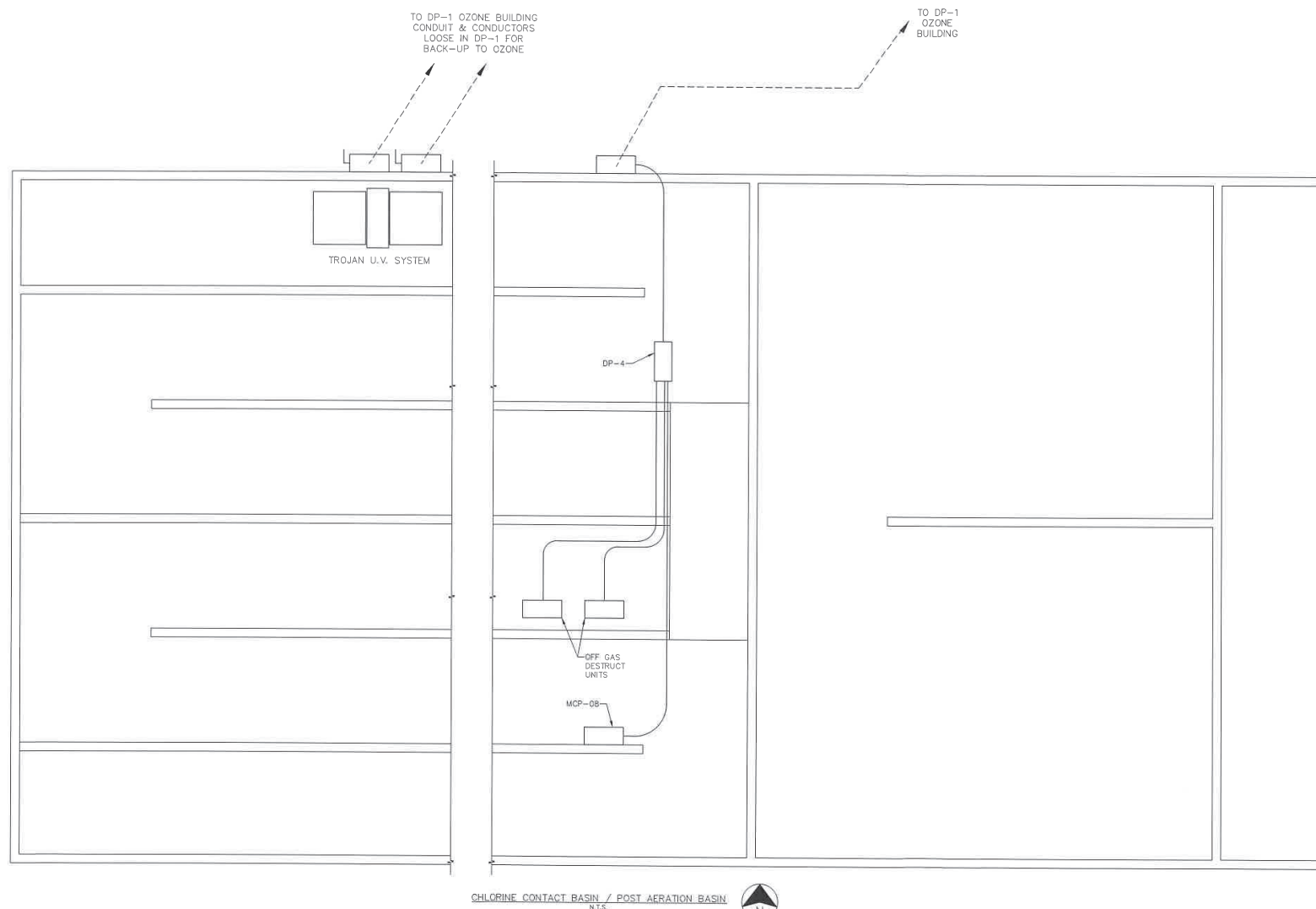
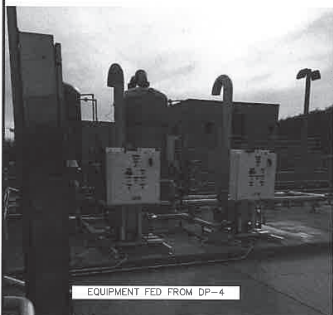
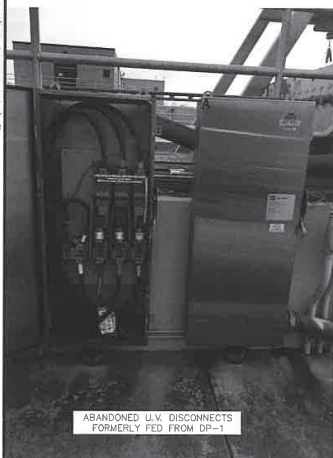
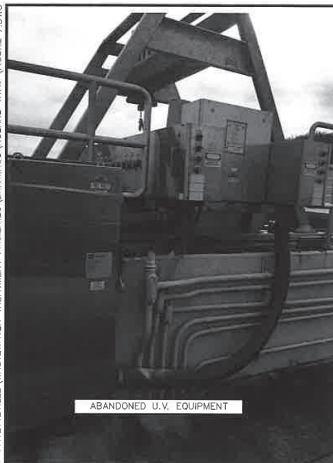
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OZONE EQUIPMENT BUILDING POWER PLAN (FORMER CHLORINATION BUILDING) (FIGURE 6A)
NOLAND WWTP ELECTRICAL STUDY
FAYETTEVILLE, ARKANSAS

FIGURE NO.

6A

Z:\FAYETTEVILLE, ARK. CITY OF FAYETTEVILLE WASTEWATER TREATMENT FACILITIES\DRAWINGS\NOLAND WWTP\FIGURE 7.DWG



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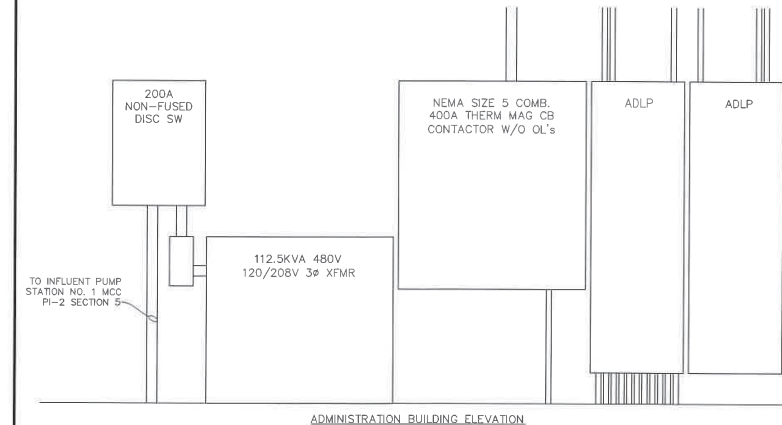
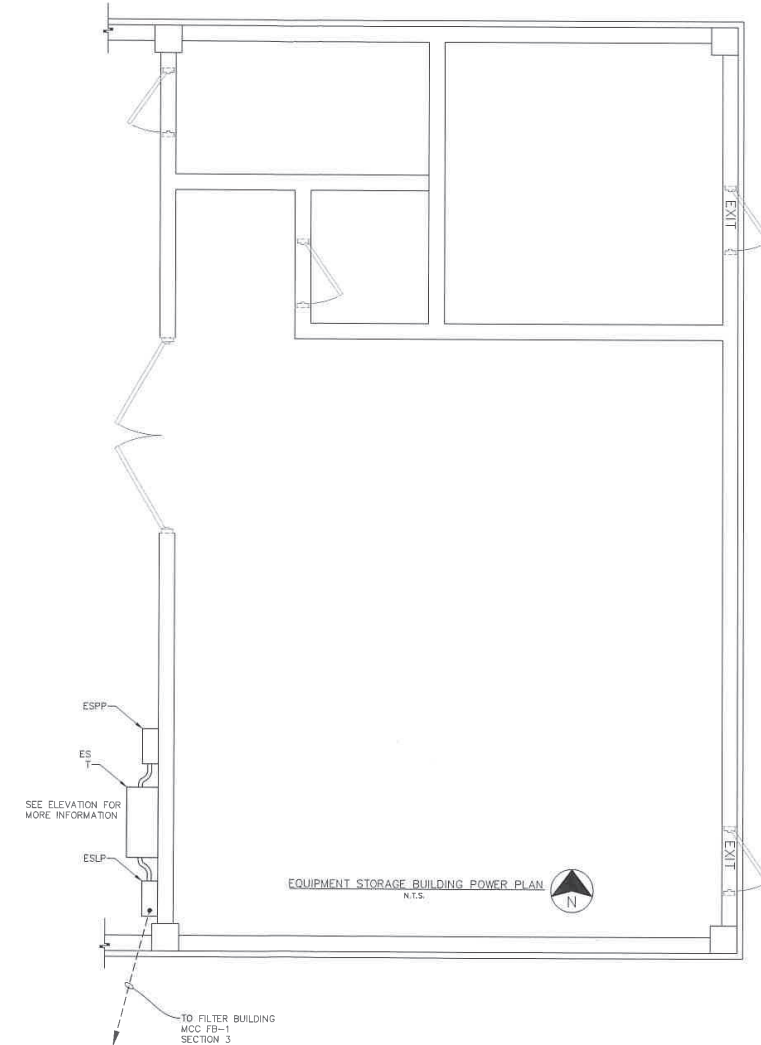
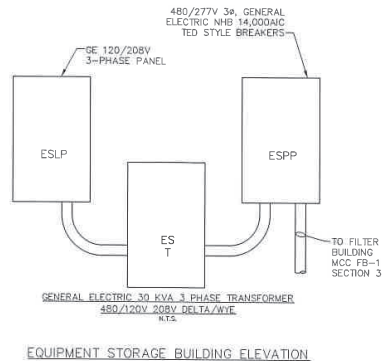
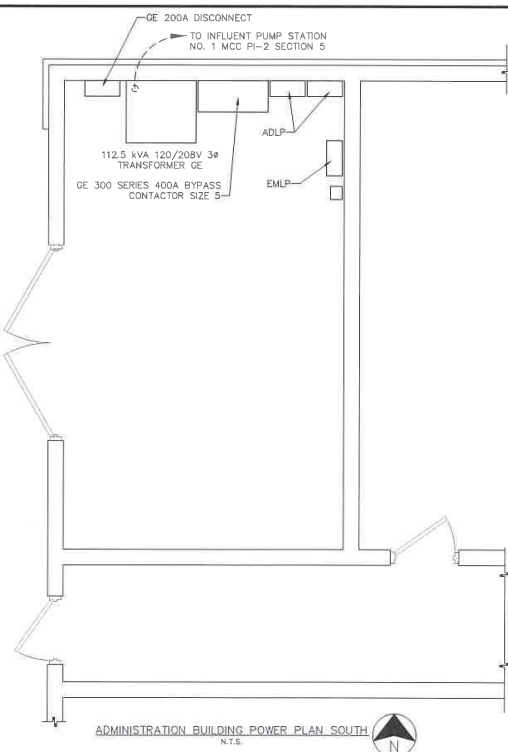
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CHLORINE CONTACT BASIN / POST AERATION BASIN POWER PLAN (FIGURE 7)
NOLAND WWTP ELECTRICAL STUDY
FAYETTEVILLE, ARKANSAS

FIGURE NO.

7

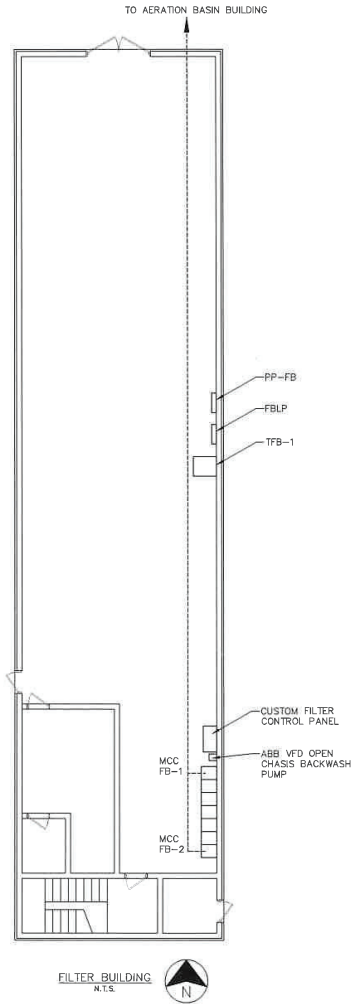




CUSTOM FILTER CONTROL PANEL



MCC FB-1 & FB-2

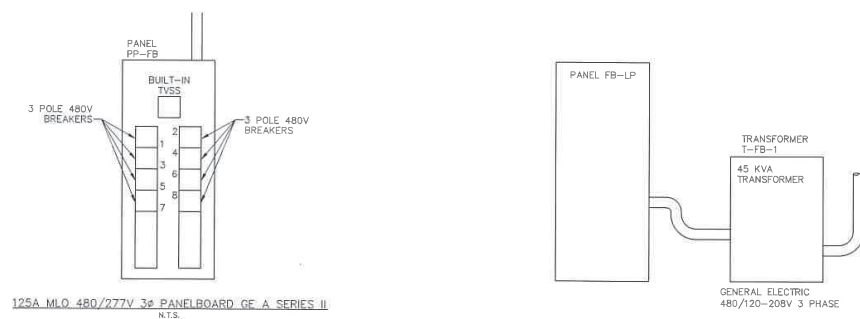
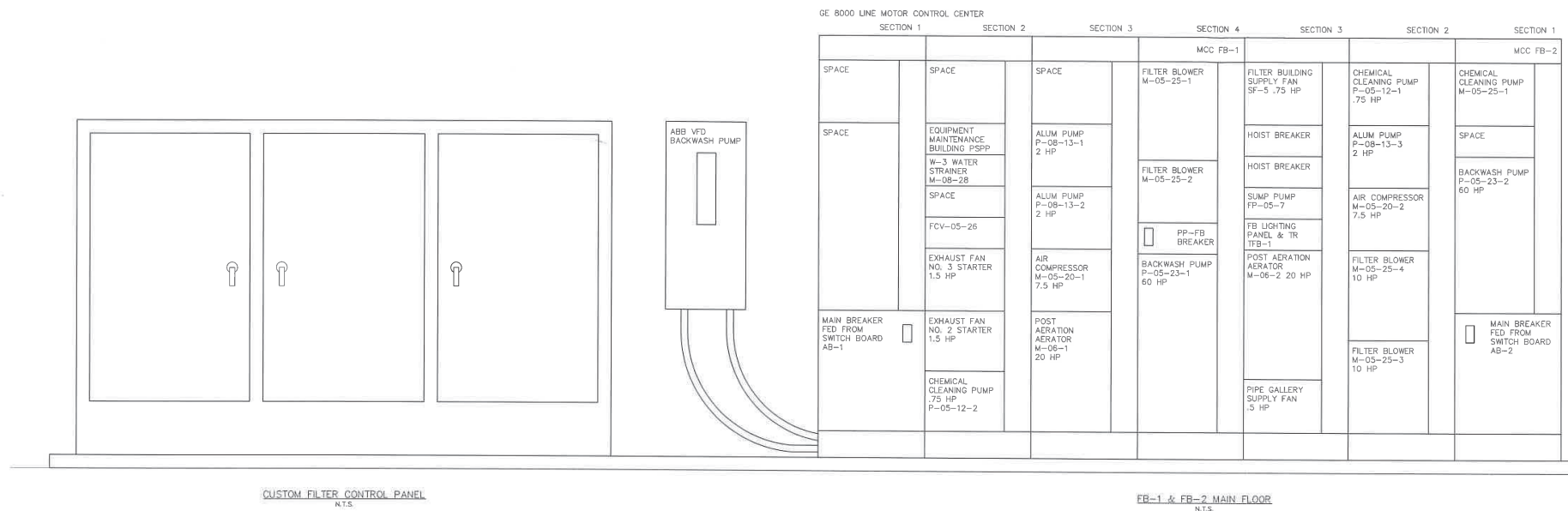


FILTER BUILDING
N.T.S.



PANELS PP-FB, FBLP & TRANSFORMER TFB-1





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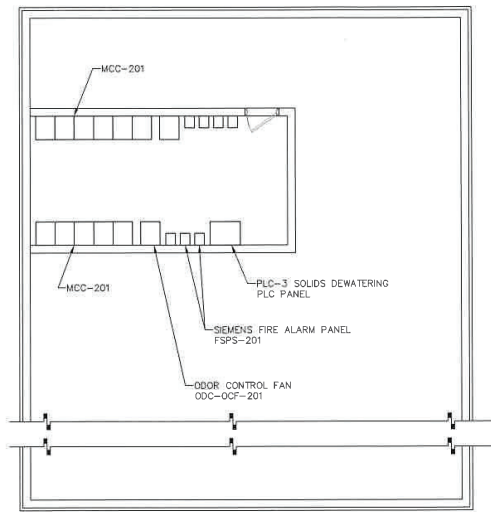
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FILTER BUILDING POWER PLAN (FIGURE 9)
NOLAND WWTP ELECTRICAL STUDY
FAYETTEVILLE, ARKANSAS

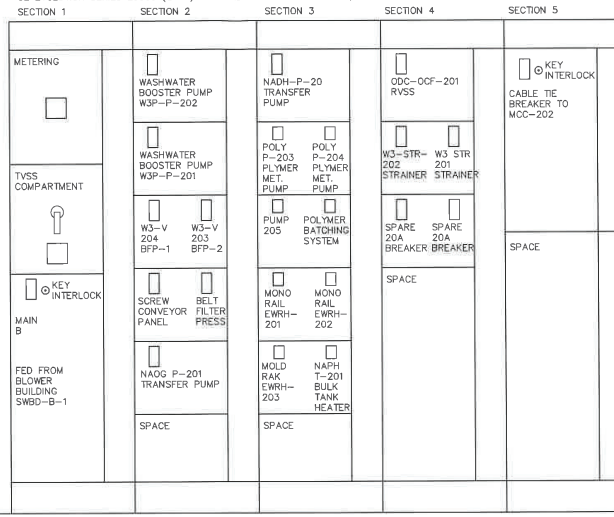
FIGURE NO.

9A

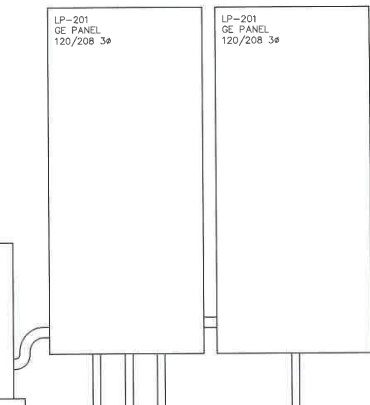


SOLIDS DEWATERING BUILDING
N.T.S.

GE EVOLUTION SERIES E9000 (2004) BUS SHEET CIRCUIT RATING 65,000 RMS



MCC-201
N.T.S.

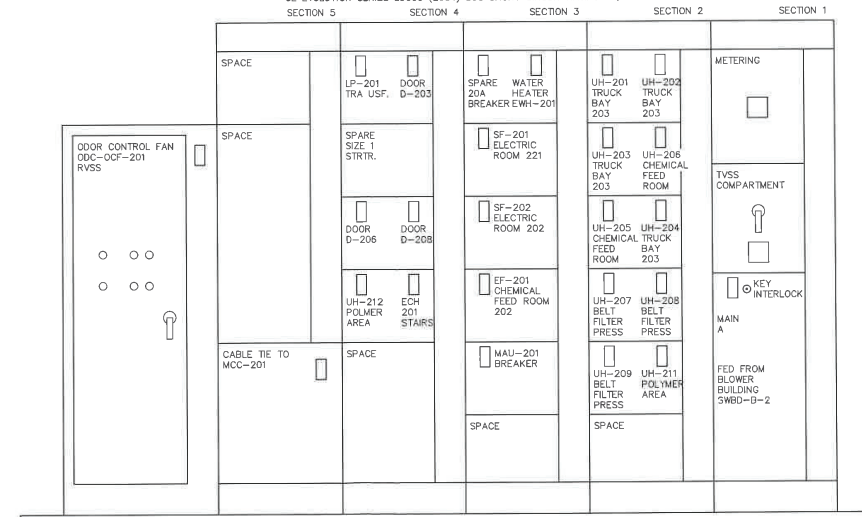


SOLIDS DEWATERING BUILDING
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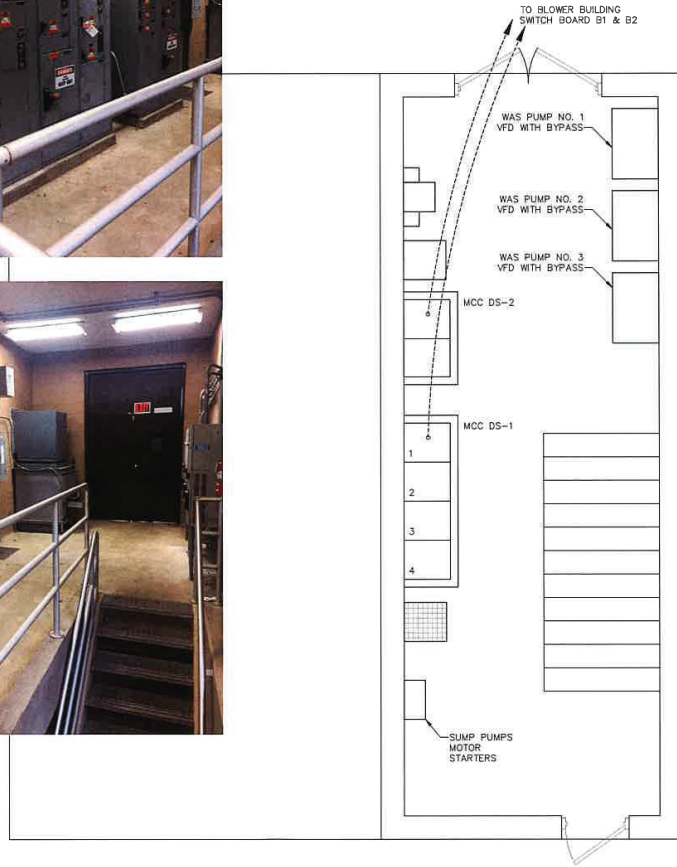


SOLIDS DEWATERING BUILDING ELECTRICAL ROOM

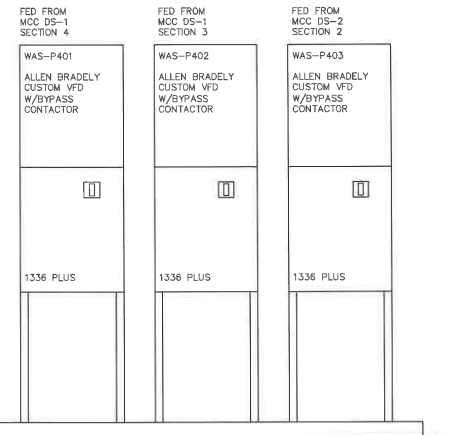
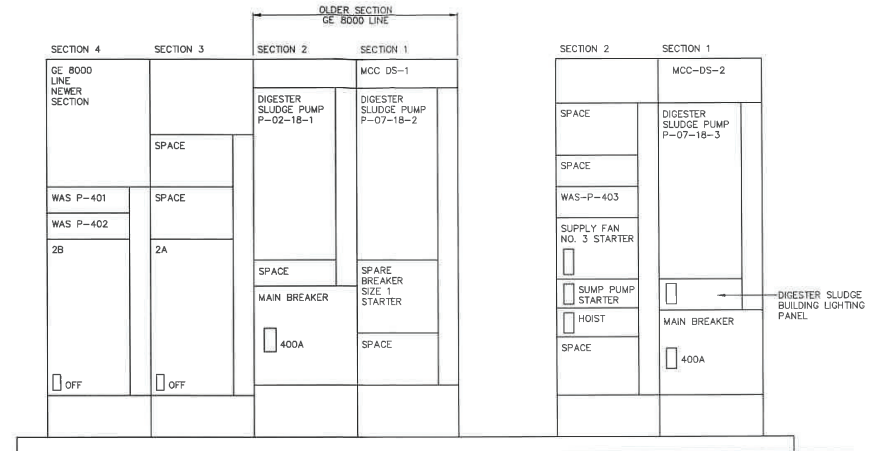
GE EVOLUTION SERIES E9000 (2004) BUS SHORT CIRCUIT RATING 65,000 RMS

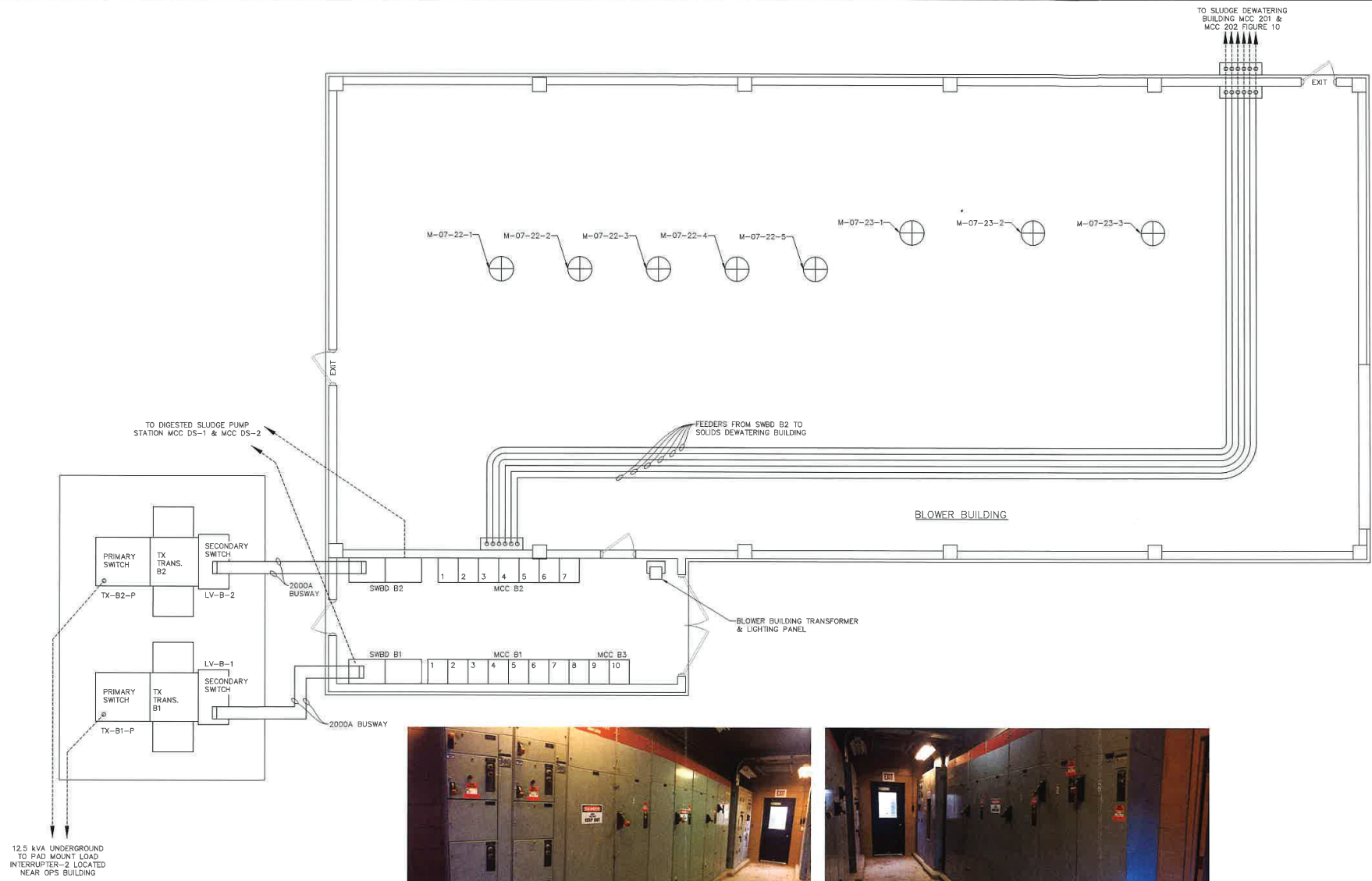


MCC-202
N.T.S.



SUMP PUMP STARTER
FED FROM MCC-DS-2





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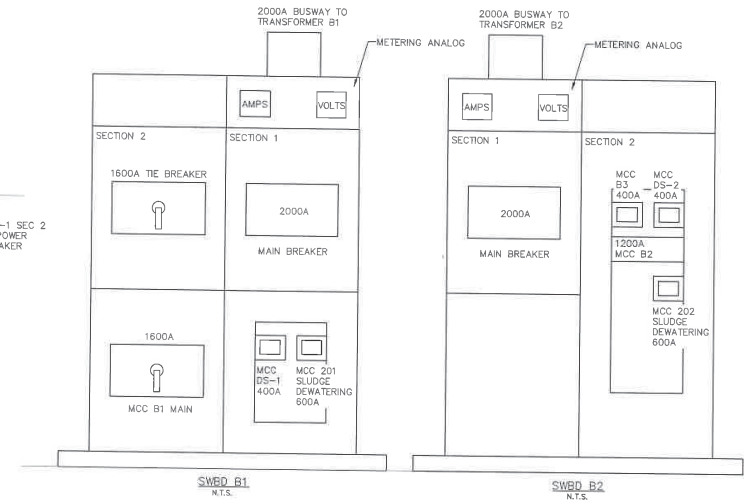
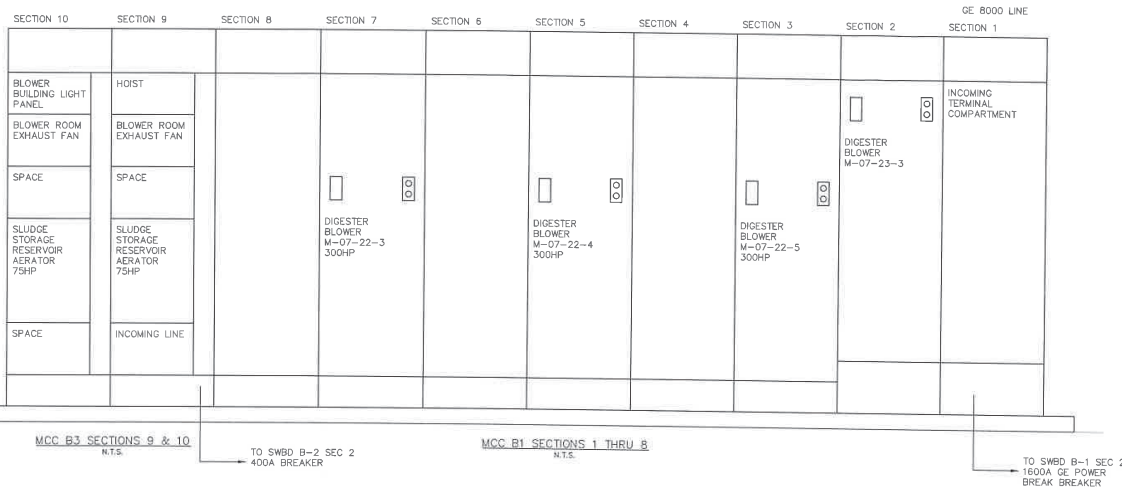
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BLOWER BUILDING POWER PLAN (FIGURE 12)
NOLAND WWTP ELECTRICAL STUDY
FAYETTEVILLE, ARKANSAS

TOTAL NO.

12



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BLOWER BUILDING POWER PLAN (FIGURE 12A)
 NOLAND WWTP ELECTRICAL STUDY
 FAYETTEVILLE, ARKANSAS

FINAL NO.

12A

ALLGEIER, MARTIN and ASSOCIATES, INC.
Consulting Engineers • Surveyors
Joplin, Missouri

Paul R. Noland WWTP Supplement

The 12.47 kV supplies equipment for the entire plant. Replacing and upgrading will require coordination. There will be times that various locations will have to be de-energized for equipment to be changed out. Some switching through the 480 volt switchboards may be utilized to keep operations energized during construction. The budgetary cost for replacement would include the following equipment and labor cost combined.

15 kV 4/0 AWG URD-AL Cable (2000')	\$20,000
15 kV #2 AWG URD-AL Cable (700')	\$6,000
Boring/Trenching	\$90,000
15 kV Cabinet	\$6,000
15 kV (2) PME-9	\$80,000
(2) 1500 kVA 12470 – 480Y/277 volt	\$76,000
(4) 500 kVA 12470 – 480Y/277 volt	\$68,000
Crane	\$7,200
Misc. Connections	<u>\$6,000</u>
Total 12.47 kV	\$359,200

The option of upgrading the 480 volt electrical services is the most expensive option, but the most reliable and compliant method for the Noland WWTP.

Our recommendation would be to stage the main services for the original (Primary) Influent Pump Station, Aeration Basin Building, Blower Building, the original Operations Building and the Ozone Equipment Building.

The original Primary Influent Pump Station should be addressed first since it is the main service for all other buildings and structures through the 12.5 kVA Primary Power Switching Station. The 480v electrical design would include two (2) new Motor Control Centers and a tie Breaker as it is currently designed. The building and electrical is shown on Page 4, Part C, Figure 4 and 4A.

The City of Fayetteville at some point in design would choose the type of motor starters and controls for the existing pumps and equipment fed from these two (2) Motor Control Centers. For this recommendation, we would estimate costs for variable frequency drives for the larger pumps and reduced voltage solid state starters for the smaller motors and pumps.

The existing MCC PI-1 and MCC PI-2 are bused together with a 600A tie Breaker keyed interlock with the two 800A main Breakers. The issue with this equipment is space and trying to fit the new equipment in this same layout. Our recommendation would be to utilize sub-feed Breakers to custom built VFD cabinets for the Influent Pumps and all other equipment fed from the Motor Control Centers in integral buckets. The most important part of staging this equipment replacement would be to have all equipment on hand, and sub-feed panels for Influent Pumps installed and ready for connection to the new gear.

The original Primary Influent Building MCC's can be replaced all at once or one at a time using the 400 KW generator for temporary power to maintain operations at this building.

The budgetary cost for replacement would include the following equipment and labor costs combined.

MCC PI-1

- Main Breaker with keyed interlock
- Two custom built with variable frequency drives with bypass contactors in stand-alone enclosures
- Transient voltage surge suppressors
- Three Clarifier starters
- Three spare starters
- Electronic amp meter and volt meters SCADA capable
- Three main Breakers for VFD cabinets

Base MCC Main	\$10,000
VFD's	\$30,000
TVSS	\$5,000

Starters	\$10,200
Electronic Metering	\$3,500
Sub-Breakers	<u>\$6,000</u>
	\$64,700

Misc. Labor and temporary power	<u>\$20,000</u>
	\$84,700

MCC PI-2

- Three custom built with variable frequency drives with bypass contactors in stand-alone enclosures
- Transient voltage surge suppressors
- Three Clarifier starters
- Three size 1 starters for misc. equipment
- Five Breakers for misc. equipment
- Three main Breakers for VFD cabinets

Base MCC Main	\$12,000
VFD's	\$45,000
TVSS	\$5,000

Starters for clarifiers and misc.	\$15,000
Electronic Metering	\$3,500
Breakers for Misc. Equipment	\$3,000
Main Breakers for VFD's	<u>\$9,000</u>

	\$92,500
Misc. Labor and temporary power	<u>\$20,000</u>
	\$112,500
Tie Breaker cabinet	\$7,800
MCC PI-1	\$84,700
MCC PI-2	\$112,500
Tie Breaker	<u>\$7,800</u>
Totals	\$205,000

The main transformers at this location as shown in Figure 4 are equipped with an 800A main Breaker bolted and bussed to the transformer secondary side to feed the two (2) MCC PI-1 and PI-2 main Breakers inside the building. It would not be necessary to have these in place since there are mains inside, unless isolation of the MCC is desirable. By eliminating these main switches, Breakers a cost savings of approximately \$18,000 could be saved.

The Aeration Basin Building is the next location that should have equipment replaced and or modified for reliable operation. This building and electrical is shown on Page 6, Part D, Figure 5 and 5A.

The 480 volt electrical design would include the main building switchboard and four (4) Motor Control Centers integral to this building. There are two (2) Motor Control Centers located at the Filter Building.

The City of Fayetteville at some point in design would choose the type of motor starters and controls best suited for this part of the process. For this building we would recommend replacing the bus duct from the secondary side of the two transformers AB-1 and AB-2 with new conduit and conductors to a new switchboard located in the building. From the switchboard MCC's AB-1, AB-2, AB-3, and AB-4 should be replaced. In addition, the two (2) MCC's FB-1 and FB-2 located at the Filter Building.

A portable generator or generators may be necessary to keep some of the equipment operational during renovation of the switchboard and the individual Motor Control Centers. The most important part of staging this equipment would be to have all new equipment on hand and ready for changeover.

The budgetary cost for replacement would include the following equipment and labor costs combined.

Conduit and Conductors from T-AB-1 and T-AB-2 to switchboard AB-1 and AB-2. 2000A conduit and conductors per linear foot, \$130.00 with 5 runs each	
\$22,000 Switchboard AB-1	
\$22,000 Switchboard AB-2	
Switchboard AB-1, Tie Breaker and AB-2	
• Switchboard AB-1	\$25,690
• Switchboard AB-2	\$25,690

• Tie Breaker	\$24,240
• (4) 800A Breakers @ \$7,300 ea.	\$29,200
• (2) 400A Frame Breakers @ \$4,030 ea.	<u>\$8,060</u>
Total	\$112,880

Motor Control Center AB-1 Main Lug Only

• 6 Sections of MCC	\$10,000
• 8 Starters or VFD's	\$32,000
• TVSS	\$5,000
• Electronic Metering	\$3,500
• Sub Breakers	<u>\$6,000</u>
Total	\$56,500

Motor Control Center AB-2

• 5 Sections of MCC	\$8,500
• 9 Starters or VFD's	\$36,000
• TVSS	\$5,000
• Electronic Metering	\$3,500
• Sub Breakers	<u>\$2,000</u>
Total	\$55,000

Motor Control Center AB-3

• 5 Sections of MCC	\$8,500
• 10 Starters or VFD's	\$38,000
• TVSS	\$5,000
• Electronic Metering	\$3,500
• Sub Breakers	<u>\$800</u>
Total	\$55,800

Motor Control Center AB-4

• 6 Sections of MCC	\$10,000
• 13 Starters or VFD's	\$52,000
• TVSS	\$5,000
• Electronic Metering	\$3,500
• Sub Breakers	<u>\$400</u>
Total	\$70,900

Motor Control Center FB-1 and FB-2 Filter Building fed from Switchboard AB-1 and AB-2.

Motor Control Center FB-1

• 4 Sections of MCC	\$6,800
• 1 Main Breaker 400A	\$2,400
• 9 Size 1 or 2 Starters	\$9,800
• 2 VFD's 20 HP and 60 HP	\$8,400
• 2 Sub Breakers	\$1,200
• TVSS	\$5,000
• Electronic Metering	<u>\$3,500</u>
Total	\$37,100

Motor Control Center FB-2

• 3 Sections of MCC	\$5,100
• 1 Main Breaker 400A	\$2,400
• 8 Size 1 or 2 Starters	\$8,800
• 2 VFD's 20 HP and 60 HP	\$8,400
• 3 Sub Breakers	\$1,800
• TVSS	\$5,000
• Electronic Metering	<u>\$3,500</u>
Total	\$35,000

Total of equipment in Aeration Building and Filter Building

Conduit and Conductors	\$44,000
Switchboard AB-1, Tie Breaker and AB-2	\$112,880
MCC AB-1	\$56,500
MCC AB-2	\$55,000
MCC AB-3	\$55,800
MCC AB-4	\$70,900
MCC FB-1	\$37,100
MCC FB-2	\$35,000

Temporary power and misc. conductors	<u>\$25,000</u>
Total	\$492,180

The Ozone Equipment Building main distribution panel DP-1 is still in good condition, but has only one 3-pole spare breaker or space. Refer to Page 8, Part E, Figures 6 and 6A for additional information.

The cost to replace this distribution panelboard is as follows:

• One split bus distribution panel Nema 3R outdoor	\$11,920
• Three 600A keyed interlock breakers	\$15,000
• Three 200A 3-pole sub-feed breakers	\$8,250
• TVSS	\$5,000
• Electronic Metering	\$3,500
• Two 40A 3-pole sub-feed breakers	<u>\$1,040</u>
Total	\$44,710

The original Operations Building was part of the original Wastewater Treatment Plant and at least 40 years old. We would recommend replacing all equipment in the basement and installing a 480v 3 phase distribution panel for this building on the upper level out of the damp environment. Refer to Page 3, Part A, Figures 1, 1A and 2 for additional information.

• Refeed new distribution panel from existing transformer	\$8,500
• Distribution Panel	\$9,000
• One 400A Breaker	\$3,750

• One 200A Breaker	\$1,600
• Demolition and misc. electrical	<u>\$12,000</u>
Total	\$34,850

The Blower Building is the last central switchboard location that serves additional buildings and electrical service that should be replaced.

Switchboard B-1 and B-2 also serve power to the Sludge Feed Building and the newer Solids Dewatering Building. Refer to Page 10, Part K and Figures 1, 1A, 12 and 12A, for additional information.

This upgrade would include two (2) 2000 amp switchboards, new conduit and conductors from pad-mount transformers to switchboards B-1 and B-2 and all necessary breakers to re-feed other buildings and equipment.

• Conduit and conductors 2000 amp per linear foot, \$130.00 each with 5 runs each.	
	\$24,000 Switchboard B-1
	<u>\$24,000 Switchboard B-2</u>
Total	\$48,000

Switchboard B-1, Tie Breaker and Sub-Feed Breakers

• Switchboard AB-1 two sections	\$25,690
• Tie Breaker	\$24,240
• Sub-feed Breaker for MCC B-1	\$24,240
• Sub-feed Breaker for MCC 201	\$7,500
• Sub-feed Breaker for MCC-DS-1	\$4,030
• Electronic Metering	<u>\$3,500</u>
Total	\$89,200

Switchboard B-2 and Sub-Feed Breakers

• Switchboard B-2 two sections	\$25,690
• Sub Panel	\$12,400
• Sub Feed Breaker MCC-B-2	\$22,000
• Sub Feed Breaker MCC-B-3	\$4,030
• Sub Feed Breaker MCC-DS-2	\$4,030
• Sub Feed Breaker MCC-202	<u>\$7,500</u>
Switchboard B-2 Total	\$75,650

MCC B-1 and MCC B-2 serve power to the eight blowers in this building, If they are utilized, the cost for replacement would be as follows:

MCC B-1 Main Lug Only

• 8 sections of MCC 30" cabinets with space for RVSS	\$20,000
• 3 size 7 starters RVSS	\$54,000
• 1 size 6 starter RVSS	\$13,850
• 1 incoming MLO section	\$8,500
• TVSS	\$5,000

• Electronic Metering	<u>\$3,500</u>
Total	\$104,850

MCC B-2 Main Lug Only

• 7 sections of MCC 30" cabinets with space for RVSS	\$18,000
• 2 size 7 starters RVSS	\$36,000
• 2 size 6 starters RVSS	\$27,700
• 1 incoming MLO section	\$8,500
• TVSS	\$5,000
• Electronic Metering	<u>\$3,500</u>
Total	\$98,700

MCC B-3 is two sections of MCC and serves the Blower Building low voltage power, sludge storage reservoir aerators and exhaust fans. To replace this MCC, the cost is as follows:

MCC B-3 Main Lug Only

• 2 sections of MCC	\$6,000
• 2 60 HP Aerators RVSS	\$15,000
• 4 Sub-Feed Breakers	\$2,400
• TVSS	\$5,000
• Electronic Metering	<u>\$3,500</u>
Total	\$31,900

The Sludge Feed Building is fed from Switchboard B-1 and B-2 to MCC DS-1 and MCC DS-2.

MCC DS-1 with Main Breaker

• 4 Sections of MCC	\$12,000
• 1 400A Main Breaker	\$1,600
• 2 Sludge Pumps Starters RVSS	\$15,000
• 2 Sub-Feed Breakers to existing VFD's	\$1,200
• TVSS	\$5,000
• Electronic Metering	<u>\$3,500</u>
Total	\$38,300

MCC DS-2 with Main Breaker

• 2 Sections of MCC	\$6,000
• 1 Sludge Pump Starter RVSS	\$7,500
• 2 size 1 Starters	\$3,500
• 3 Sub-Feed Breakers	\$1,800
• 1 400A Main Breaker	\$1,600
• TVSS	\$5,000
• Electronic Metering	<u>\$3,500</u>
Total	\$21,900

The newer Solids Dewatering Equipment is in good condition and serviceable.

The totals for the Blower Building and associated equipment are as follows:

Conduit and Conductors	\$48,000	
Switchboard B-1	\$89,200	
Switchboard B-2	\$75,650	
MCC B-1	\$104,850	See Note
MCC B-2	\$98,700	See Note
MCC B-3	<u>\$31,900</u>	
Total	\$448,300	

Note: Deduct if not using MCC B-1 and B-2

The totals for Sludge Feed Building

MCC DS-1	\$38,300
MCC DS-2	<u>\$21,900</u>
Total	\$60,200

The total budgetary project estimates for the 480-volt equipment are as follows:

Influent Pump Building 480V	\$205,000
Aeration Basin Building and Filter Building	\$492,180
Ozone Equipment Building	\$44,710
Original Operations Building	\$34,850
Blower Building	\$448,300
Sludge Feed Building	\$60,200
Miscellaneous Back-up power for temporary to equipment including portable generators and cabling	\$120,000
Demolition and re-location of used equipment	<u>\$150,000</u>
Total 480v	\$1,555,240

Budget Year	Division	Adjustment Number
2017	WATER SEWER (720)	
	/Org2	
	Requestor: Cheryl Partain	

A BA is needed within the WWTP Building Improvements project for the engineering design and engineering observation/management associated with the electrical improvements at the Paul R. Noland Wastewater Treatment Plant. Funds will be moved from the Wastewater Treatment, Water Quality Improvements project to cover all costs associated with the project.

v.20170707

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City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2017-0666

Agenda Date: 12/5/2017

Version: 1

Status: Agenda Ready

In Control: City Council Meeting

File Type: Resolution

Agenda Number: C. 8

CH2M HILL ENGINEERS, INC. AMENDMENT NO. 9:

A RESOLUTION TO APPROVE AMENDMENT NO. 9 TO THE AGREEMENT FOR OPERATIONS, MAINTENANCE AND MANAGEMENT SERVICES BETWEEN THE CITY OF FAYETTEVILLE, ARKANSAS AND CH2M HILL ENGINEERS, INC. IN THE AMOUNT OF \$7,938,833.00 FOR SERVICES IN 2018

WHEREAS, changes to the contract with CH2M Hill Engineers, Inc. for 2018 include refurbishment of a sand filter and a cost of living adjustment for an increase in the total amount of \$131,380.00.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby approves Amendment No. 9 to the Agreement for Operations, Maintenance and Management Services between the City of Fayetteville, Arkansas and CH2M Hill Engineers, Inc. in the amount of \$7,938,833.00 for services in 2018.

City of Fayetteville Staff Review Form

2017-0666

Legistar File ID

12/5/2017

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Tim Nyander

11/15/2017

Utilities Director /
Utilities Department

Submitted By

Submitted Date

Division / Department

Action Recommendation:

Staff recommends a resolution to approve Contract Amendment No. 9 with CH2M HILL Engineers, Inc. beginning January 1, 2018 and ending December 31, 2018 in the amount of \$7,938,833.00.

Budget Impact:

5400.730.XXXX-5328.00

Water/Sewer

Account Number

Fund

48048.XXX

OMI Expenses

Project Number

Project Title

Budgeted Item? Yes

Current Budget \$ 8,419,957.00

Funds Obligated \$ -

Current Balance \$ 8,419,957.00

Does item have a cost? Yes

Item Cost \$ 7,983,833.00

Budget Adjustment Attached? No

Budget Adjustment \$ -

Remaining Budget \$ 436,124.00

V20140710

Previous Ordinance or Resolution # 46-17

Original Contract Number:

Approval Date:

Comments:

MEETING OF DECEMBER 5, 2017

TO: Mayor and City Council

FROM: Tim Nyander, Utilities Director

DATE: October 25, 2017

SUBJECT: Approval of Contract Amendment No. 9 with CH2M HILL Engineers, Inc. beginning January 1, 2018 and ending December 31, 2018 with an annual cost of \$7,983,833.00 for 2018.

RECOMMENDATION:

City Administration recommends approval of Contract Amendment No. 9 with CH2M HILL Engineers, Inc. beginning January 1, 2018 and ending December 31, 2018, in the amount of \$7,938,833.00.

BACKGROUND:

When the original Noland WWTP upgrade was completed in 1987, the City contracted with OMI (now CH2M) for wastewater treatment services. The scope of services provided by CH2M HILL include: (1) operate and maintain the Noland and West Side Wastewater Treatment Plants (WWTP); (2) operate and/or maintain 42 wastewater pump station sites; (3) administer the City's NPDES discharge, air, stormwater, and other permits; (4) manage the City's biosolids disposal program; (5) manage the City's industrial pretreatment program; (6) support the SCADA (supervisory control and data acquisition system) network that monitor water and wastewater facilities; (7) pursue operation economies, efficiencies, and permit compliance; and (8) participate in the construction and post-construction work of the Wastewater System Improvement Project (WSIP). In late 2009, the City underwent a rigorous selection process with three competitive proposals. The selection committee selected CH2M HILL for a five-year contract and two subsequent five year extensions subject to City review and approval. To encourage cost saving operations, the contract contains an incentive provision whereby budget savings are distributed 87.5% to the City and 12.5% to CH2M HILL. The overall contract price has increased from the amended total 2017 contract price by 1.01 % or \$131,380.

DISCUSSION:

The contract includes \$100,000 for refurbishment of a sand filter, and a cost of living increase.

BUDGET/STAFF IMPACT:

Funds are available within the overall Utility budget.

Attachments:

Signed Contract Amendment

AMENDMENT NO. 9 TO AGREEMENT
For
OPERATIONS, MAINTENANCE AND MANAGEMENT SERVICES
Between
CITY OF FAYETTEVILLE, ARKANSAS
And
CH2M HILL ENGINEERS, INC.

THIS AMENDMENT NO. 9 to the Agreement for Operations, Maintenance and Management Services between the City of Fayetteville, Arkansas, Water Resource Recovery Facility and its pertinent systems dated December 15, 2009 (the "Agreement"), is made effective on the 1st day of January, 2018, by and between City of Fayetteville, Arkansas, acting by and through its Mayor (hereinafter "City of Fayetteville") and CH2M HILL Engineers, Inc., (hereinafter "CH2M")

NOW THEREFORE, the City and CH2M hereby amend the Agreement as follows:

1. Appendix A is attached for informational purposes only.
2. Appendix B is attached for informational purposes only.
3. Appendix C is attached for informational purposes only.
4. Appendix D is hereby deleted in its entirety and replaced with the attached Appendix D.
5. Appendix E is hereby deleted in its entirety and replaced with the attached Appendix E.
6. Appendix F is attached for informational purposes only.
7. Appendix G is attached for informational purposes only.
8. Appendix H is hereby deleted in its entirety and replaced with the attached Appendix H.
9. Appendix I is attached for informational purposes only.

This Amendment No. 9, together with prior Amendments and the Agreement, constitutes the entire agreement between the Parties and supersedes all prior oral and written understandings with respect to the subject matter set forth herein. Unless specifically stated all other terms and conditions of the Agreement shall remain in full force and effect. Neither this Amendment nor the Agreement may be modified except in writing signed by an authorized representative of the Parties.

The Parties, intending to be legally bound, indicate their approval of the Amendment by their signatures below.

Officer have made and executed this Agreement as of the day and year first above written.

CH2M HILL ENGINEERS, INC.

CITY OF FAYETTEVILLE, ARKANSAS

By: 
Name: Steven Carpenter
Title: Regional Business Manager
Date: 10/18/17

By: _____
Name: Lioneld Jordan, Mayor
Title: Mayor
Date: _____

ATTEST:

By: _____
Name: Sondra Smith
Title: City Clerk
Date: _____

Appendix A

LIST OF APPENDICES

Appendix A – List of Appendices

Appendix B – Definitions

Appendix C – Scope of Services

Appendix D – Compensation for Services

Appendix E – Location of Project

Appendix F – Environmental Permits and Project Characteristics

Appendix G – Industrial Waste Discharges and Monitoring Program

Appendix H – Vehicle and Mobile Equipment Description (Rolling Stock)

Appendix I – Base Fee Adjustment

Appendix B

DEFINITIONS

- B.1 “Adequate Nutrients” means plant influent nitrogen, phosphorus and iron contents proportional to BOD₅ in the ratio of five (5) parts nitrogen, one (1) part phosphorus, and one half (0.5) part iron for each one hundred (100) parts BOD₅.
- B.2 “Base Fee” means all costs within the scope of the contract, on an annual basis, including direct costs, labor, utilities, and other allocated costs.
- B.3 “Biologically Toxic Substances” means any substance or combination of substances contained in the plant influent in sufficiently high concentrations so as to interfere with the biological processes necessary for the removal of the organic and chemical constituents of the wastewater required to meet the discharge requirements of City of Fayetteville’s NPDES permit. Biologically toxic substances include but are not limited to heavy metals, phenols, cyanides, pesticides, and herbicides.
- B.4 “Capital Expenditures” means any expenditures for (1) the purchase of new equipment or facility items that cost more than Ten Thousand Dollars (\$10,000); or (2) major repairs which significantly extend equipment or facility service life and cost more than Ten Thousand Dollars (\$10,000); or (3) expenditures that are planned, non-routine and budgeted by City of Fayetteville.
- B.5 “Cost” means the total of all costs determined on an accrual basis in accordance with generally accepted accounting principles including but not limited to direct labor, insurance, labor overhead, chemicals, materials, supplies, utilities, equipment, maintenance, repair, and outside services.
- B.6 “Electrical Evaluation” will be limited to amperage draws, winding resistance measurements, thermographic evaluations, and current and voltage imbalance.
- B.7 “Fixed Asset” means any tangible property that has a value of Five Thousand Dollars (\$5,000) or more and is depreciable. This excludes the repair/replacement parts that are components of a greater fixed asset.
- B.8 “Maintenance” means the cost of those routine and/or repetitive activities required or recommended by the equipment or facility manufacturer or CH2M to maximize the service life of the equipment, vehicles, and facilities as listed in Appendix E.
- B.9 “Out of scope” services will include “capital expenditures” (definition B.4 of this Appendix), added or modified regulatory requirements (that are not contained in the applicable permits), changes to improve efficiency and/or generate income, or other services not described in the contract and requested by the City of Fayetteville. These services shall be performed as stated in Appendix C. Should “Out of Scope Services” become a permanent and ongoing requirement, CH2M will submit a change of scope request within a reasonable amount of time in accordance with Paragraph 1.6 of the Agreement.
- B.10 “Project” means all equipment, vehicles, grounds and facilities described in Appendix E and where appropriate, the management, operations and maintenance of such.

- B.11 “Repairs” means the cost of those non-routine/non-repetitive activities required for operational continuity, safety, and performance generally due to failure or to avert a failure of the equipment, sewer, vehicle, or facility or some component thereof; cost less than ten thousand dollars (\$10,000); and are not included in definition B.4 of this Appendix. “Repairs” exclude cost of repair parts caused by storm damage to the supervisory control and data acquisition (SCADA) system.

Appendix C

SCOPE OF SERVICES

C.1 SCOPE OF SERVICES – CH2M

- C.1.1 Perform professional services in connection with the Project as hereinafter stated.
- C.1.2 Operate and maintain all facilities over a 24-hour per day, 7-day per week period, under full service contract operations and maintenance. Operations may be performed with on-site staff and/or remote monitoring/on-call services for all or portions of this time.
- C.1.3 Within the design capacity and capability of the Project, manage, operate, and maintain the Project so that effluent discharged from the Project meets the requirements specified in Appendix F.
- C.1.4 Operate and maintain the present Industrial Pretreatment Program including all monitoring, inspections, sampling, testing, reporting, and record keeping as described in Appendix G. Results of all industrial sampling and testing shall be made available to City of Fayetteville as requested.
- C.1.5 Provide all Maintenance for the Project. Document as required to continue existing maintenance program and to provide City of Fayetteville requested reporting, including but not limited to updated preventative maintenance schedules. City of Fayetteville shall have full access to preventative maintenance records.
- C.1.6 Pay all costs incurred within the scope of normal Project operations as defined in this Agreement.
- C.1.7 Staff the Project with a minimum of three (3) Arkansas Class IV Wastewater licensed operators.
- C.1.8 Prepare all NPDES permit and other pertinent regulatory reports, letters, or other correspondence, and submit these to City of Fayetteville for signature and approval. Transmittal to appropriate agencies shall be done by CH2M, except for electronic reporting via NetDMR. Any fines levied because of late reports as a result of CH2M failure to complete and allow sufficient time for City of Fayetteville's signature and transmittal shall be paid by CH2M. Submittal to the City of Fayetteville by the 20th of the month following the reporting period shall be considered timely.
- C.1.9 Provide for proper disposal of screening, scum, grit, and biosolids in compliance with permit and regulatory requirements, as long as a suitable location for such disposal is reasonably available. Should regulations and/or disposal/application options significantly change, projected costs will be revised by mutual agreement.
- C.1.10 Provide all manufacturers' warranties on new equipment purchased by the City of Fayetteville and assist the City of Fayetteville in enforcing existing equipment warranties and guarantees.
- C.1.11 Be responsible for all laboratory testing and sampling presently required by the NPDES permits, stormwater permits, "no discharge" permits, and other related requirements.
- C.1.12 Provide an inventory of vehicles and equipment (rolling stock) that are being used at the Project at the beginning of each contract year.

- C.1.13 Provide twenty four (24) hour per day access to Project for City of Fayetteville's personnel. Visits may be made at any time by any of City of Fayetteville's employees so designated by City of Fayetteville's representative. Keys for Project shall be provided to City of Fayetteville by CH2M. All visitors to the Project shall comply with CH2M's operating and safety procedures.
- C.1.14 Provide for the maintenance of existing City of Fayetteville rolling stock such as dump trucks, tractors, and trailers that are necessary for the operations and maintenance of the facilities.
- C.1.15 Provide training for personnel in areas of operation, maintenance, safety, supervisory skills, laboratory, and energy management. Continue the current project safety program with updates as necessary.
- C.1.16 Provide computerized maintenance, process control, and laboratory management systems.
- C.1.17 Comply with the requirements of City of Fayetteville regarding affirmative action provisions for minority hiring.
- C.1.18 Provide City of Fayetteville with a full accounting of all expenditures at intervals and in sufficient detail as may be determined by City of Fayetteville and assist City of Fayetteville in preparation of annual operating budgets. City of Fayetteville shall be allowed to conduct or have conducted audits of all accounting records related to the direct contract operations of this Agreement at times to be determined by City of Fayetteville.
- C.1.19 Provide City of Fayetteville with full documentation that preventative maintenance is being performed on all City of Fayetteville equipment in accordance with manufacturer's recommendations at intervals and in sufficient detail as may be determined by City of Fayetteville. Maintenance program shall include documentation of corrective and preventive maintenance and a spare parts inventory.
- C.1.20 Provide for repairs as described in the Appendix B.11.
- C.1.21 Maintain the SCADA system as described in Appendix E, to include ongoing updates and upgrades of the software and hardware to ensure operational continuity and in accordance with initiatives as agreed upon by the City of Fayetteville and CH2M.
- C.1.22 Verify the capacity and efficiency of each sewer lift station once per calendar year.
- C.1.23 Provide recommendations for Capital Improvements Program (CIP) with a schedule for improvements and expenditures as requested by the City of Fayetteville. A five (5) year schedule will be presented for all capital improvements and ten (10) year projections will be made for major improvements. These recommendations will be based on requirements determined from facility operations and does not include detailed engineering studies. In addition, CH2M will prepare the required forms and documentation required during budget and capital improvements budget preparation time each year. Except for the improvements requiring an engineering study, the following will be included for each project:
- Improvement needed
 - Justification of improvements
 - Cost of improvements
 - Any projected increase or decrease in O&M costs created by the CIP
 - Proposed expenditure schedule

- Proposed capital recovery schedule
 - Impact of early termination
- C.1.24 Perform other services that are related to but not part of the Scope of Services upon written notification by City of Fayetteville. Such services will be invoiced to City of Fayetteville at CH2M's cost plus eighteen percent (18%).
- C.1.25 At the direction of the City of Fayetteville, CH2M is authorized to act in emergency situations outside this Scope of Services, at CH2M's discretion. The costs related to emergency services are not included in the compensation set forth in this Agreement. CH2M will notify City of Fayetteville as soon as reasonably possible, and shall be compensated by City of Fayetteville for any such emergency work at CH2M's costs for the emergency work plus twenty-two percent (22%).
- C.1.26 Provide City of Fayetteville with oral and written reports as requested.
- C.1.27 Operate and maintain all existing wastewater lift station facilities including buildings, grounds, backup power generators, and certain other appurtenances within the site fenced area. However, maintenance of inlet and outlet pipe works shall terminate at the wall of lift station. Should the City of Fayetteville add in excess of three (3) additional lift stations, from the prior contract year's number of sites, a corresponding change of scope will be negotiated.
- C.1.28 Conduct annual electrical evaluations of electrical units of 25 horsepower or more which operate at supply voltages of 480V or less to ground.
- C.1.29 CH2M will comply with present federal, state, and local laws in performing their obligations under the terms of this Agreement. CH2M and City of Fayetteville will work cooperatively regarding the application and impact of potential changes in law, including the potential cost impact on the scope of work, and mutually revise this Agreement as applicable.
- C.1.30 Coordinate and schedule the use of training rooms at both wastewater treatment facilities.
- C.1.31 Conduct community outreach and education activities including cooperative efforts with the University of Arkansas as appropriate.
- C.1.32 Maintain compliance with other existing environmental permits as described in Appendix F.
- C.1.33 Maintain the industrial surcharge program and provide for monitoring and control of septage deliveries, as provided for in the City of Fayetteville's Code of Ordinances, Discharge and Pretreatment Regulations.
- C.1.34 The parties contemplate that minor design/engineering services may be provided by CH2M from time to time. The scope and compensation for such services shall be mutually negotiated by the parties prior to the commencement of work.
- C.1.35 Operate and maintain the ongoing nutrient removal efforts at the City of Fayetteville's Biosolids Management Site, including managing harvesting and marketing the hay produced on the site. Biosolids Management Site maintenance shall also include compliance with the current "no discharge" permit.
- C.1.36 Operate and maintain existing onsite power generators at all existing sites, including maintaining compliance with off-peak power rate structure monitoring and generation requirements.

- C.1.37 Operate and maintain the biosolids drying operation, which includes 6 solar houses and a thermal biosolids dryer.
- C.1.38 Coordinate the marketing and/or disposal of the dried biosolids produced from the drying operations as appropriate.
- C.1.39 Coordinate the application of alum sludge from Beaver Water District and invoicing for the services as appropriate.
- C.1.40 Check the condition of and replace the odor canisters (as listed in Appendix E) that are part of the air release valves in the collection system, as needed. The mechanical condition of these valves will be maintained by the Fayetteville Water and Sewer Division.
- C.1.41 Provide site monitoring and City approved property maintenance activities as directed for Woolsey Wet Prairie adjacent to the West Side Wastewater Resource Recovery Facility to assure that the site continues to meet ecological performance standards.
- C.1.42 Provide monitoring to the White River streambank restoration site near the Biosolids Management Site, as well as support for the pending restoration site near the Noland treatment plant, as contract budget allows.
- C.1.43 Reserved
- C.1.44 Reserved
- C.1.45 Provide incidental small scale support as directed to various not-for-profit groups on issues important to the City of Fayetteville.

C.2 SCOPE OF SERVICES – CITY OF FAYETTEVILLE

- C.2.1 Provide for all Capital Expenditures except for the Projects that City of Fayetteville may authorize CH2M to implement subject to mutually agreeable terms and conditions of repayment.
- C.2.2 Maintain all existing and necessary Project warranties, guarantees, easements, permits, and licenses that have been granted to City of Fayetteville with the proviso that CH2M remains primarily responsible to ensure that the wastewater plants are efficiently, properly and professionally operated so that they will not suffer a loss of permits or licenses.
- C.2.3 Pay all property or other taxes or franchise fees associated with the Project. This excludes taxes to be borne by CH2M for equipment owned by CH2M.
- C.2.4 May provide CH2M within a reasonable time after request any piece of City of Fayetteville's heavy equipment, subject to availability, so that CH2M may fulfill its obligations under this Agreement in the most cost-effective manner.
- C.2.5 Provide all licenses for vehicles used in connection with the Project.
- C.2.6 Provide for CH2M's use all vehicles and equipment presently in use at the Project, including the vehicles described in Appendix H.
- C.2.7 Pay for all wastewater lift station utilities, with the exception of electricity.

- C.2.8 Pay for all gasoline, diesel, and propane for backup power generators and all rolling stock provided by City of Fayetteville.
- C.2.9 Pay for all regulatory fees.

Appendix D

COMPENSATION FOR SERVICES

- D.1 CH2M estimates that Base Fee for services, on an annual basis, under this Agreement for 2018 shall be Seven Million, Nine Hundred Thirty-Eight Thousand, and Eight Hundred Thirty-Three Dollars (\$7,938,833). Details of said cost are shown in D.4 below. Thereafter, the Base Fee shall be negotiated each year. Should City of Fayetteville and CH2M fail to agree, the Base Fee will be determined by the application of the Base Fee adjustment formula shown in Appendix I. Upon each contract year renegotiation, CH2M shall continue to invoice City of Fayetteville at the previous amount until the new contract year price is agreed upon. Upon written notice, agreement between the parties as to the new contract year Base Fee, CH2M shall issue an invoice retroactively adjusting the previous Base Fee amount. Should the actual expenditures exceed the total estimated annual expenditures by more than Twenty Thousand Dollars (\$20,000), in any year of this Agreement, specific approval will be obtained from the City of Fayetteville prior to CH2M incurring additional costs.
- D.2 An administrative fee of fifteen percent (15%) will be added to personnel services, and ten percent (10%) to all other direct costs excluding electricity. An annual fixed management fee of One Hundred Forty Thousand, Nine Hundred Twenty-Five Dollars (\$140,925) shall be billed in equal monthly installments and adjusted annually in relation to the Base Fee.
- D.3 In order to provide an incentive for CH2M to operate in a manner that will result in actual costs below estimated cost, City of Fayetteville will pay CH2M an additional fee when actual costs are below estimated cost. Said fee will be twelve and one half percent (12.5%) of the amount of actual cost are below estimated cost.
- D.4 For occasions when the City equipment may be used for purposes outside the scope of this contract and not for the benefit of the City, CH2M agrees to reimburse the City of Fayetteville for equipment usage. The rate of reimbursement is calculated as equipment capital cost per hour use plus five percent (5%). The City of Fayetteville agrees to provide certificates of insurance evidencing proof of insurance for any equipment or vehicles used by CH2M.
- D.5 **Cost Detail** - The annualized estimated costs for calendar year 2018 are listed in Table D-1.

Table D-1, Cost Detail

	WRRF Administratio n & SCADA Program	WRRF East Side Operations Program	WRRF West Side Operations Program	WRRF Lab & IPP Program	WRRF Lift Station Maintenance Program	WRRF Biosolids Management Program	Total Cost 2018
Direct Labor	751,178	700,762	444,829	333,724	152,015	698,909	3,081,418
Labor Markup, 15%	112,677	105,114	66,724	50,059	22,802	104,836	462,213
Direct Expense	382,275	1,036,404	329,305	146,188	285,457	607,980	2,787,609
Expense Markup, 10 %	38,227	103,640	32,930	14,619	28,546	60,798	278,761
Electricity		580,457	353,535		253,916		1,187,908
Fixed Fee	140,925						140,925
Totals	1,425,282	2,526,377	1,227,324	544,589	742,736	1,472,524	7,938,833

Appendix E

LOCATION OF PROJECT

E.1 CH2M agrees to provide the services necessary for the management, operation and maintenance of the following:

E.1.1 All equipment, vehicles, grounds and facilities now existing within the present property boundaries of or being used to operate the City of Fayetteville's Noland Water Resource Recovery Facility located at:

1400 North Fox Hunter Road
Fayetteville, Arkansas 72701

E.1.2 All equipment, vehicles, grounds and facilities now existing within the present property boundaries of or being used to operate the City of Fayetteville's West Side Water Resource Recovery Facility located at:

15 South Broyles Avenue
Fayetteville, Arkansas 72704

E.1.3 All equipment, grounds, and facilities now existing within the present fenced boundaries of wastewater lift stations described as follows:

SCADA NODE	LOCATION	Generator	Site Maintenance Only
WW1	978 E Zion Rd (Lowe's – Zion PS)	YES	
WW2	3500 E Mission Blvd (Timbercrest PS)	YES	
WW4	691 W Poplar St (Poplar PS - ABANDONED)		YES
WW5	3896 N Gregg Ave (Gregg Ave PS)	YES	
WW6	3021 N Old Wire Rd (Old Wire PS)	NO	
WW7	2065 N Sunshine Rd (Hamestring PS)	YES	
WW8	729 W North Street (North Street PS –ABANDONED)		YES
WW9	1236 N Porter Rd (Porter Rd PS)	NO	
WW10	716 N Futrall Dr (Futrall Dr PS)	YES	
WW11	4412 W 6th Street (Farmington East PS –ABANDONED)		YES
WW12	571 N Double Springs Road (Farmington West PS)	YES	
WW13	878 S Dead Horse Mountain Rd (Stonebridge PS)	YES	
WW14	1820 S Armstrong Ave (Industrial Park PS)	YES	
WW16	518 W Ernest Lancaster Dr (Airport North PS)	YES	
WW18	210 N Sandy (Greenland PS)	NO	
WW19	5716 E Norman Murphy Rd (Mally Wagon PS)	YES	
WW20	3212 N Highway 112 – (Trucker's Drive PS - ABANDONED)		YES
WW22	630 N Double Springs Rd (Owl Creek PS)	YES	
WW23	440 E Fairway Ln (Masters PS)	NO	

SCADA NODE	LOCATION	Generator	Site Maintenance Only
WW24	265 W Ernest Lancaster Dr (Airport East PS)	YES	
WW25	551 W Aster Ave (Willow West PS - Farmington)	YES	
WW27	1031 River Meadows Dr (Stonebridge Meadow Phase I PS)	YES	
WW28	1603 Plantation Ave (Heritage Village PS)	YES	
WW29	390 N Cato Springs Rd (Bohannon PS - Greenland)	NO	
WW32	478 N Durango Place (Silverthorne PS)	YES	
WW33	4644 N Crossover Rd (Stonewood PS - Copper Creek)	YES	
WW34	4572 S School Ave (Airport South PS)	YES	
WW35	3083 W MLK Blvd (Lowe's – 6th St PS)	YES	
WW36	1642 N Willowbrook Dr (Skyler Place PS)	YES	
WW37	3848 W Edgewater Dr (Clabber Creek PS - ABANDONED)		YES
WW38	3710 E Zion Rd (Copper Creek Phase II PS)	YES	
WW39	2392 N Kenswick Ave (Crofton Manner PS)	YES	
WW40	1811 S Cherry Hills Dr (Stone Bridge Meadow Phase II PS)	YES	
WW41	1608 S Springlake Dr (Crescent Lake PS)	YES	
WW44	6061 Dot Tipton Rd (Legacy Pointe Phase 4 PS)	NO	
WW45	4451 N Waterside Ct (Timberlake Office Park PS)	YES	
WW46	3788 E Spyglass Hill Dr (Stonebridge Meadows Phase V PS)	YES	
WW47	3601 E Albright Rd (Embry Acres PS)	YES	
WW48	2435 S Dead Horse Mountain Rd (McDonald PS)	YES	
WW49	3393 E Goff Farm Rd (Meadows PS)	YES	
WW52	485 N Broyles Ave (Broyles Ave PS)	YES	
WW53	1396 Zion Rd (Office Park PS)	YES	

E.1.4 All equipment, grounds, and facilities now existing within the present property boundaries of or being used to operate the City of Fayetteville's Biosolids Management Site located east of the Noland Water Resource Recovery Facility across the White River.

E.1.5 All equipment, grounds, and facilities associated with or being used to complete routine O&M activities for the City of Fayetteville's Mitigated Wetlands Site now existing within the present property boundaries located north of the West Side Water Resource Recovery Facility. These services include execution of seasonal Adaptive Management strategy including recommended herbicide applications, site maintenance & monitoring, monthly reporting, prescribed burn site preparations, land management BMP's to adjacent City of Fayetteville properties. Services exclude permit compliance over-sight, permit reporting and prescribed burn scheduling & execution.

E.1.6 The potable water SCADA system at the following locations:

SCADA NODE	LOCATION	DESCRIPTION
W1	215 W 24th St (South Mountain)	Pump Station
W2	844 N Crossover Rd (Hyland Park)	Pump Station
W4	1016 E Ash St	Pump Station
W5	707 E Rogers Dr	Pump Station
W6	456 E Baxter Ln	Ground Storage Tank (2 each)
W7	707 E Rogers Dr	Ground Storage Tank (2 each)
W8	133 N Sang Ave	Elevated Storage Tank
W9	1170 E South Skyline Dr	Elevated Storage Tank (Mt. Sequoyah)
W10	1044 E Township Rd	Elevated Storage Tank
W11	3280 W Judge Cummins Rd	Ground Storage Tank (2 ea) (Kessler Mountain)
W12	7001 E Mission (Highway 45 Valve	Pressure-Reducing Valve Station)
W13	1589 Fire Tower Road (Goshen)	Pump Station and Ground Storage Tank
W14	17301 Lake Sequoyah Rd (Round Mtn)	Pump Station
W15	14360 Round Mt Comm Church Rd	Stand Pipe County Rd #55 (Round Mountain)
W16	22032 Fire Tower Rd County Rd 4343	Stand Pipe (Benson Mountain)
W17	3265 N Gulley Rd	Elevated Storage Tank
W18	3788 N Gulley Rd	Pump Station
W19	3370 S Coach Rd	Pump Station
W20	2098 Woodcliff Rd (Springdale)	Surge Tank
W21	2210 N Old Wire Rd	Valve
W22	2800 N Old Missouri Rd	Flow Meter
W23	3385 N Par Ct	Valve
W24	3023 E Joyce Blvd	Valve
W25	2567 E Robinson (Springdale)	Valve
W27	17385 Blue Springs Rd (Goshen)	Pump Station
W28	17970 Lake Sequoyah Rd	Pump Station
W29	Beaver Water District	SCADA Interface
W30	1195 N. Canterbury Rd (Canterbury Tank)	Elevated Storage Tank
W31	2903 E. Flagstone Cir (Stonemountain)	Pump Station
WSOPC	2435 S Industrial Dr	Water & Sewer Ops Center
MTROB	12141 Ed Edwards Rd	Mt. Robinson Tower Site

E.1.6 Installation of the necessary Remote Terminal Units (RTUs) and equipment to acquire flow information from the collection system via SCADA. Flow monitoring devices (up to 17 remote locations) are scheduled to be installed by the City's Water and Sewer Division.

E.1.7 Provision and maintenance of RTUs at the following sites located in the City of Elkins, Arkansas:

SCADA NODE	LOCATION	DESCRIPTION
EW1		Lift Station
EW1		Ground Storage Tank

E.1.8 Maintenance of the odor control system associated with the following lift stations:

<u>LOCATION</u>	<u># OF CANISTERS</u>
LS #6 - 3021 N Old Wire Rd (Old Wire)	5
LS #7 - 2065 N Sunshine Rd (Hamestring)	7
LS #12 - 571 N Double Springs Road (Farmington West)	8
LS #22 - 630 N Double Springs Rd (Owl Creek)	2
LS #52 - 485 N Broyles Ave (Broyles Ave)	2

Appendix F

ENVIRONMENTAL PERMITS AND PROJECT CHARACTERISTICS

F.1 CH2M will operate Project so that effluent will meet the requirement of NPDES permit No. AR0020010 and AR0050288. CH2M shall be responsible for meeting the effluent quality requirements of City of Fayetteville's NPDES current permits unless one or more of the following occurs:

- The Project influent does not contain Adequate Nutrients to support operation of Project biological processes;
- Contains Biologically Toxic Substances which cannot be removed by the existing process and facilities;

The influent flow, influent BOD₅, and/or suspended solids exceeds the Project design parameters which are:

	Noland WRRF		West Side WRRF	
	Annual Average	Maximum Monthly Average	Annual Average	Maximum Monthly Average
Flow (MGD)	11.2	16.9	10.0	17.8
BOD (lbs/d)	26,370	27,960	14,595	18,853
TSS (lbs/d)	20,620	22,210	14,595	18,853

F.2 In the event any one of the Project influent characteristics, suspended solids, BOD₅, or flow, exceeds the parameters listed above, CH2M shall return the plant effluent to the characteristics required by the NPDES permit in accordance with the following schedule after Project influent characteristics return to within design parameters.

Characteristics Exceeding Listed Parameters By	Recovery Period Maximum
10% or Less	5 days
> 10% but < 20%	10 days
20% and Above	30 days

Notwithstanding the above schedule if the failure to meet effluent quality limitations is caused by the presence of Biologically Toxic Substances or the lack of Adequate Nutrients in the influent, then CH2M will have a thirty (30) day recovery period after the influent is free from said substances or contains Adequate Nutrients.

F.3 CH2M shall not be responsible for fines or legal action as a result of discharge violations within the period that influent exceeds design parameters, does not contain Adequate Nutrients, contains Biologically Toxic Substances (that exceed process inhibiting levels or creates concentrations exceeding application or discharge limitations), and the subsequent recovery period.

F.5 The estimate Costs for services under this Agreement are based upon the following Project

characteristics:

Annual Average	Noland WRRF	West Side WRRF
Flow (MGD)	6.5	8.3
BOD (lbs/d)	15,353	12,856
TSS (lbs/d)	9,890	13,527

The above characteristics are the actual twelve (12) months average prior to the date services are first provided under this Agreement. Any change of 10 percent (10%) or more in any of these characteristics, based upon a twelve (12) month moving average, may constitute a change in scope.

F.6 The current applicable environmental permits are as follows:

Permit	AFIN No.	Permit No.	Expiration Date
NPDES - Noland	72-00781	AR0020010	02/28/2018
NPDES - West Side	72-01033	AR0050288	11/30/10
No Discharge Permit – Biosolids Management Site & Noland	72-00829	4748-WR-3	08/01/2020
Air - Hamestring	72-01873	2179-A	N/A
Air - West Side	72-01033	2178-A	N/A
Stormwater No Exposure Certification (NEC) - Noland	72-00781	Tracking No. ARR00C377	06/30/19
Stormwater No Exposure Certification (NEC) - West Side	72-01033	Tracking No. ARR000390	06/30/19

Appendix G

INDUSTRIAL WASTE DISCHARGES AND MONITORING PROGRAM

- G.1 CH2M shall: Administer the Industrial Pretreatment Program in accordance with 40 CFR 403. Administration shall include:
- G.1.1 Maintain the industrial waste sampling and analysis program for pretreatment and surcharge, as described in G.3.
 - G.1.2 Monitor the compliance status of the current Significant Industrial Users (SIU's) through sampling, analysis, inspection, and record reviews. Recommend appropriate enforcement action to City of Fayetteville.
 - G.1.3 Receive, review and act upon reports and notification from industrial users.
 - G.1.4 Prepare notice of violations and other enforcement documentation for City of Fayetteville signature in accordance with the Enforcement Response Plan in the State approved Industrial Pretreatment Program.
 - G.1.5 Track, determine, and publish industrial users in significant noncompliance.
 - G.1.6 Draft new, revised, and renewal industrial waste discharge permits for the SIU's for City of Fayetteville signature.
 - G.1.7 Conduct an Industrial Waste Survey periodically to identify new, or significant, industrial users in Fayetteville and in cities with which Fayetteville has inter-jurisdictional agreements for waste treatment.
 - G.1.8 Assist City of Fayetteville with review and revision of local limits, the sewer use ordinances, the pretreatment program, and inter-jurisdictional agreements.
 - G.1.9 Prepare for City of Fayetteville signature and submit the Industrial Pretreatment annual report.
 - G.1.10 Maintain all industrial monitoring records for at least three (3) years.
 - G.1.11 Maintain open communication with the SIU's.
 - G.1.12 Keep City of Fayetteville informed of pretreatment activities and changes in regulatory requirements.
- G.2 Significant costs due to new or changed Federal, State or local regulations shall cause a change of contract scope.
- G.3 Industrial Waste Dischargers and Monitoring Program in City of Fayetteville, AR:

Industry	Parameters Analyzed
Ayrshire Electronics, LLC 1101 S. Beechwood Fayetteville, AR 72701	None (Best Management Practices)
Custom Powder Coating Services, Inc. 1629 W. Farmington St. Fayetteville, AR 72701	Cadmium, chromium, copper, lead, nickel, silver, zinc, cyanide

Industry	Parameters Analyzed
Elkhart Products Corporation 3265 Highway 71 South Fayetteville, AR 72701	Chromium, copper, lead, nickel, zinc, oil & grease
Hiland Dairy Company 301 E. 15 th Street Fayetteville, AR 72701	Biochemical oxygen demand, total suspended solids, phosphorus, pH, oil & grease
Marshalltown Company 2200 Industrial Drive Fayetteville, AR 72701	Cadmium, chromium, copper, lead, nickel, silver, zinc, cyanide
Pinnacle Foods Corporation 1100 W, 15 th Street Fayetteville, AR 72701	Biochemical oxygen demand, total suspended solids, phosphorus, pH, oil & grease
Superior Industries International Arkansas, LLC 1901 Borick Drive Fayetteville, AR 72701	Cadmium, chromium, copper, lead, nickel, silver, zinc, cyanide
Tyson Mexican Original, Inc. 2615 S. School Fayetteville, AR 72701	Biochemical oxygen demand, total suspended solids, phosphorus, pH, oil & grease

Appendix H

VEHICLE AND MOBILE EQUIPMENT DESCRIPTION (ROLLING STOCK)

Unit #	Unit Description	Location	Year
85U	1998 Ford F-800 Flatbed	Biosolids Management Site	1998
325U	Ford F350 Super Duty, Reg. Cab	Biosolids Management Site	2000
376	Ford F550 Super Duty/Crane, Crew Cab	Biosolids Management Site	2012
382	Ford F550 Super Duty/Crane, Crew Cab	Biosolids Management Site	2015
387	Ford F-350, Flatbed	Biosolids Management Site	2016
388	Ford F-350, Flatbed	Paul R Noland	2016
566	Ford/New Holland LS55 Lawn Tractor	Biosolids Management Site	1999
570	New Holland 8670 Tractor	Biosolids Management Site	2000
696	Caterpillar 420E Backhoe	Biosolids Management Site	2012
741U	Mack Semi Tractor	Biosolids Management Site	1996
748U	Freightliner M2-112 Dump Tandem Axle	Biosolids Management Site	2006
751	Sterling LT9500 Semi Tractor	Biosolids Management Site	2006
766	Kenworth T800 Semi Tractor	Biosolids Management Site	2011
768	Kenworth T470 (Spreader)	Biosolids Management Site	2012
770	Kenworth T800 Semi Tractor	Biosolids Management Site	2013
771	Kenworth T800 Semi Tractor	Biosolids Management Site	2013
818	Caterpillar P5000LP Forklift	West Side	2008
910	Trailer	Paul R Noland	1987
927	Parker 24' Gooseneck Trailer	Biosolids Management Site	1991
966	P.J. Trailer, 18FT	Biosolids Management Site	1996
969	LO-Boy 25T-36FT Trailer	Biosolids Management Site	1996
1160U	2006 Ford Explorer	Paul R Noland	2011
1274	Chevrolet Equinox	West Side	2014
2156	Chevy Colorado, 4X4	Paul R Noland	2012
5001	John Deere 6615 4X4 Tractor	Biosolids Management Site	2007
5002	John Deere 6615 4X4 Tractor	Biosolids Management Site	2007
5012	Ford/New Holland 4X4 T6030 Loader Tractor	Biosolids Management Site	2009
5022	Case Maxxum 125 4X4 Loader Tractor	Biosolids Management Site	2011
5024	R&R 35' Manure/Litter Conveyor	Biosolids Management Site	2011
5025	R&R 35' Manure/Litter Conveyor	Biosolids Management Site	2011
5031	John Deere MOCO6030 Discbine	Biosolids Management Site	2012
5032	New Holland BR740 Round Baler	Biosolids Management Site	2012
5033	New Holland BB9060 Square Baler	Biosolids Management Site	2012
5034	Rhino R180 Cutter	Biosolids Management Site	2012
5037	New Holland BR7060 Round Baler	Biosolids Management Site	2012
5044	John Deere 630 Mower Conditioner	Biosolids Management Site	2014
5045	John Deere 630 Mower Conditioner	Biosolids Management Site	2014

5057	Ford/New Holland Workmaster 55 4X4 Tractor	Biosolids Management Site	2015
5058	Ford/New Holland T6.155 4X4 Loader Tractor	Biosolids Management Site	2015
5059	John Deere 615D 4X4 Loader Tractor	Biosolids Management Site	2015
5070	Meyer Spreader	Biosolids Management Site	2016
5072	New Holland Hay Rake	Biosolids Management Site	2017
6000	John Deere Articulated Loader	Biosolids Management Site	2012
6018	Volvo MC135C Skid Steer	Biosolids Management Site	2016
9025	Volvo Penta 400 KW Generator	Lift Station12	2001
9034	Yale 5000# Fork Lift	Paul R Noland	2002
9111	Clement Star-Lite Trailer	Paul R Noland	2009
9124	Thompson 6" Diesel Power Pump/Trailer	Paul R Noland	2009
9142	Aulick 42' Belted Trailer	Biosolids Management Site	2011
9165	Clement Star-lite Trailer	Biosolids Management Site	2013
9166	Clement Star-lite Trailer	Biosolids Management Site	2013
9193	Clement Starlite End Dump Trailer	Biosolids Management Site	2015
9227	Clement Starlite End Dump Trailer	Biosolids Management Site	2016
9239	Genie S-45 Man Lift	Biosolids Management Site	2017
9241	Clement Starlite End Dump Trailer	Biosolids Management Site	2017
	Parkson Electronic Mole – Billy	Biosolids Management Site	2011
	Parkson Electronic Mole – Cricket	Biosolids Management Site	2011
	Parkson Electronic Mole – Goofy	Biosolids Management Site	2011
	Parkson Electronic Mole – Jurgens	Biosolids Management Site	2011
	Parkson Electronic Mole – Tiny Tim	Biosolids Management Site	2011
	Parkson Electronic Mole – Loenneke	Biosolids Management Site	2011
	Portable Generator for Lift stations	Paul R Noland	2005

Appendix I

BASE FEE ADJUSTMENT

- I.1 Electrical costs will be adjusted by actual increases from power supplier.
- I.2 The Base Fee adjustment formula is as follows:

$$ABF = BF \times (1 + AF)$$

Where:

- BF = Base Fee specified in Appendix D
- ABF = Adjusted Base Fee
- AF = Adjustment Factor as determined by the formula:

$$AF = .5 (ECI + CPI)$$

- ECI = The twelve month percent change (from the third quarter of the prior year to the third quarter in the current year) in the Employment Cost Index for Total Compensation for Civilian Workers, Not Seasonally Adjusted as published by U. S. Department of Labor, Bureau of Labor Statistics in the Detailed Report Series ID: CIU1010000000000A.
- CPI = The twelve month percent change (from October of the prior year to October of the current year) in the Consumer Price Index for All Urban Consumers, Not Seasonally Adjusted as published by U.S. Department of Labor, Bureau of Labor Statistics in the CPI Detailed Report Series Id: CUUR000SA0.



City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2017-0635

Agenda Date: 12/5/2017

Version: 1

Status: Agenda Ready

In Control: City Council Meeting

File Type: Presentation

Agenda Number: D. 1

AGENDA SESSION PRESENTATION - 2017-2018 DRAINAGE IMPROVEMENTS PLAN

Agenda Session

City of Fayetteville, Arkansas

*113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323*



City Council Agenda Session Tentative Agenda

Tuesday, November 28, 2017

4:30 PM

City Hall Room 326

City Council Members

Adella Gray Ward 1

Sarah Marsh Ward 1

Mark Kinion Ward 2

Matthew Petty Ward 2

Justin Tennant Ward 3

Sarah Bunch Ward 3

John S. La Tour Ward 4

Kyle Smith Ward 4

ELECTED OFFICIALS:

Mayor Lioneld Jordan

City Attorney Kit Williams

City Clerk Sondra Smith

Call To Order**Roll Call****Pledge of Allegiance****Mayor's Announcements, Proclamations and Recognitions****City Council Meeting Presentations, Reports and Discussion Items:**

1. 2017-0539
MONTHLY FINANCIAL REPORT - PAUL BECKER
2. 2017-0681
ELECTION OF VICE MAYOR

Agenda Additions**A. Consent:**

☒ 2016-0588
APPROVAL OF THE NOVEMBER 21, 2017 CITY COUNCIL MEETING MINUTES.

☒ A. 2 2017-0676
ARKANSAS FORESTRY COMMISSION FIREWISE GRANT:

A RESOLUTION TO AUTHORIZE ACCEPTANCE OF AN ARKANSAS FIREWISE GRANT FROM THE ARKANSAS FORESTRY COMMISSION IN THE AMOUNT OF \$500.00 FOR USE BY THE FIRE DEPARTMENT, AND TO APPROVE A BUDGET ADJUSTMENT

Attachments: ARKANSAS FORESTRY COMMISSION FIREWISE GRANT
BA ARKANSAS FORESTRY COMMISSION FIREWISE GRANT

A.3 2017-0651

RFP #17-13 GALLAGHER BENEFITS SERVICES:

A RESOLUTION TO AWARD RFP #17-13 AND AUTHORIZE A ONE (1) YEAR CONTRACT WITH GALLAGHER BENEFITS SERVICES IN THE AMOUNT OF \$80,000.00, WITH AUTOMATIC RENEWALS FOR UP TO FOUR (4) ADDITIONAL ONE (1) YEAR TERMS, FOR THE PROVISION OF CITY EMPLOYEE BENEFITS BROKER SERVICES

Attachments: RFP #17-13 GALLAGHER BENEFITS SERVICES:

A.4 2017-0669

BID #17-57 TRUCK CENTERS:

A RESOLUTION TO AWARD BID #17-57 AND AUTHORIZE THE PURCHASE OF A FREIGHTLINER M2-112 ROLL OFF TRUCK FROM TRUCK CENTERS OF SPRINGDALE, ARKANSAS IN THE AMOUNT OF \$148,663.00 FOR USE BY THE RECYCLING AND TRASH COLLECTION DIVISION

Attachments: BID 17-57 TRUCK CENTERS OF ARKANSAS:

A.5 2017-0671

BID #17-58 TRUCK SERVICE CENTER, INC.:

A RESOLUTION TO AWARD BID #17-58 AND AUTHORIZE THE PURCHASE OF A UNICARRIERS PF50LP FORKLIFT FROM LIFT TRUCK SERVICE CENTER, INC. OF SPRINGDALE, ARKANSAS IN THE AMOUNT OF \$23,911.95 FOR USE BY THE WASTEWATER TREATMENT DIVISION

Attachments: BID 17-58 LIFT TRUCK SERVICE CENTER OF SPRINGDALE

A.6 2017-0670

BID #17-62 WILLIAMS TRACTOR:

A RESOLUTION TO AWARD BID #17-62 AND AUTHORIZE THE PURCHASE OF TWO BOBCAT E45 T4 COMPACT TRACK EXCAVATORS FROM WILLIAMS TRACTOR OF FAYETTEVILLE, ARKANSAS IN THE TOTAL AMOUNT OF \$83,988.00 FOR USE BY THE WATER AND SEWER OPERATIONS DIVISION

Attachments: BID #17-62 WILLIAMS TRACTOR

A.7 2017-0668

BID #17-63 HENARD UTILITY, INC.:

A RESOLUTION TO AWARD BID #17-63 AND AUTHORIZE THE PURCHASE OF A SECA SEWER JETTER TRUCK FROM HENARD UTILITY, INC. OF SEARCY, ARKANSAS IN THE AMOUNT OF \$217,575.00 FOR USE BY THE WATER AND SEWER OPERATIONS DIVISION

Attachments: BID 17-63 HENARD UTILITY PRODUCTS, INC.

A.8 2017-0667

SPRING STREET PARKING DECK FUND:

A RESOLUTION TO CLOSE THE SPRING STREET PARKING DECK FUND, TRANSFER ABOUT \$243,431.00 REMAINING IN THAT FUND TO THE PARKING FUND AND TO APPROVE THE ATTACHED BUDGET ADJUSTMENT

Attachments: SPRING STREET PARKING DECK FUND
 BA SPRING STREET PARKING DECK FUND

A.9 2017-0672

BKD, LLP:

A RESOLUTION TO APPROVE A ONE YEAR CONTRACT WITH BKD, LLP FOR AUDITING SERVICES FOR THE 2017 AUDIT, WITH AN OPTION TO RENEW FOR UP TO FOUR ADDITIONAL ONE YEAR TERMS

Attachments: BKD.LLP

A.10 2017-0652

BID #17-56 81 CONSTRUCTION GROUP, INC.:

A RESOLUTION TO AWARD BID #17-56 AND AUTHORIZE A CONTRACT WITH 81 CONSTRUCTION GROUP, INC. IN THE AMOUNT OF \$435,650.00 FOR THE CONSTRUCTION OF THE LAKE SEQUOYAH BASIN 3 ACCESS ROAD, AND TO APPROVE A PROJECT CONTINGENCY IN THE AMOUNT OF \$43,565.00

Attachments: BID #17-56 81 CONSTRUCTION GROUP, INC.

A. 11 2017-0653

MCCLELLAND CONSULTING ENGINEERS, INC.:

A RESOLUTION TO APPROVE A CONTRACT WITH MCCLELLAND CONSULTING ENGINEERS, INC. IN THE AMOUNT OF \$15,200.00 FOR TESTING AND SURVEYING SERVICES ASSOCIATED WITH THE CONSTRUCTION OF THE LAKE SEQUOYAH BASIN 3 ACCESS ROAD PROJECT, AND TO APPROVE A BUDGET ADJUSTMENT

Attachments: MCCLELLAND CONSULTING ENGINEERS, INC.
BA MCCLELLAND CONSULTING ENGINEERS, INC.

A. 12 2017-0655

MCGOODWIN, WILLIAMS AND YATES, INC. AMENDMENT NO. 1:

A RESOLUTION TO APPROVE AMENDMENT NO. 1 TO THE CONTRACT WITH MCGOODWIN, WILLIAMS AND YATES, INC. IN AN AMOUNT NOT TO EXCEED \$74,016.00 FOR CHANGES TO THE DINSMORE TRAIL WATER MAIN PLANS, CONSTRUCTION OBSERVATION AND MANAGEMENT SERVICES, AND ASSISTANCE WITH PRESSURE SUSTAINING VALVES ON THE WATER MAINS

Attachments: MCGOODWIN, WILLIAMS AND YATES, INC.

B. Unfinished Business:**B. 1** 2017-0650

REZONE COLLEGE AVENUE:

AN ORDINANCE TO REZONE ALL PARCELS WITHIN OR NEAR COLLEGE AVENUE AS SHOWN ON EXHIBIT C OF THE PLANNING DEPARTMENT'S AGENDA MEMO COMPRISING ABOUT 24.62 ACRES

Attachments: REZONE COLLEGE AVENUE

This ordinance was left on the first reading at the November 21, 2017 City Council meeting.

B.22017-0648

AMEND §166.21 DOWNTOWN DESIGN OVERLAY DISTRICT:

AN ORDINANCE TO AMEND §166.21 DOWNTOWN DESIGN OVERLAY DISTRICT BY AMENDING THE APPLICABILITY SECTION TO INCLUDE COLLEGE AVENUE OVERLAY DISTRICT AND TO ENACT §166.26 COLLEGE AVENUE OVERLAY DISTRICT

Attachments: AMEND §166.21 DOWNTOWN DESIGN OVERLAY DISTRICT

This ordinance was left on the first reading at the November 21, 2017 City Council meeting.

C. New Business:**C.1**2017-0628

WALTON FAMILY FOUNDATION DESIGN EXCELLENCE PROGRAM GRANT:

A RESOLUTION TO THANK THE WALTON FAMILY FOUNDATION, TO AUTHORIZE MAYOR JORDAN TO ACCEPT A DESIGN EXCELLENCE PROGRAM GRANT FROM THE WALTON FAMILY FOUNDATION IN THE AMOUNT OF \$1,770,000.00 TO FUND THE DESIGN OF AN INTERACTIVE OUTDOOR CULTURAL ARTS CORRIDOR ALONG THE RAZORBACK REGIONAL GREENWAY, TO AUTHORIZE THE ISSUANCE OF A REQUEST FOR QUALIFICATIONS WITH THE CONDITION THAT ONLY FIRMS PRE-APPROVED BY THE WALTON FAMILY FOUNDATION MAY RESPOND, AND TO APPROVE A BUDGET ADJUSTMENT

Attachments: Legistar Packet - WFF Design Excellence - Cultural Arts Corridor
BA WALTON FAMILY FOUNDATION DESIGN EXCELLENCE GRANT

~~LC.2~~2017-0660

THEATRESQUARED, INCORPORATED:

A RESOLUTION TO EXPRESS THE CITY COUNCIL'S ACCEPTANCE AND APPROVAL OF THEATRESQUARED, INCORPORATED'S PLEDGES AND FINANCIAL COMMITMENTS AS SUFFICIENT TO ENSURE COMPLETION OF THEATRESQUARED'S \$31,500,000.00 THEATER PROJECT, AND TO AUTHORIZE MAYOR JORDAN TO INVEST THE PROMISED \$3,100,000.00 AS CONSTRUCTION REIMBURSEMENTS PURSUANT TO THE CONTRACT OF JUNE 28, 2017

Attachments: THEATRESQUARED, INCORPORATED

~~LC.3~~2017-0661

AREA AGENCY ON AGING OF NORTHWEST ARKANSAS:

AN ORDINANCE TO WAIVE THE REQUIREMENTS OF FORMAL COMPETITIVE BIDDING AND APPROVE A CONTRACT BETWEEN THE CITY OF FAYETTEVILLE, ARKANSAS AND THE AREA AGENCY ON AGING OF NORTHWEST ARKANSAS IN THE AMOUNT OF \$98,887.00 TO PROVIDE PUBLIC RECREATION SERVICES FOR THE SENIOR CITIZENS OF FAYETTEVILLE FOR 2018, CONTINGENT ON APPROVAL OF THE 2018 ANNUAL CITY BUDGET AND WORK PROGRAM

Attachments: AREA AGENCY ON AGING OF NORTHWEST ARKANSAS

~~LC.4~~2017-0659

FAYETTEVILLE YOUTH CENTER, INC.:

AN ORDINANCE TO WAIVE THE REQUIREMENTS OF FORMAL COMPETITIVE BIDDING AND APPROVE A CONTRACT BETWEEN THE CITY OF FAYETTEVILLE, ARKANSAS AND FAYETTEVILLE YOUTH CENTER, INC. IN THE AMOUNT OF \$225,000.00 TO PROVIDE PUBLIC RECREATION SERVICES FOR THE YOUTH AND CITIZENS OF FAYETTEVILLE FOR 2018 CONTINGENT UPON APPROVAL OF THE 2018 CITY BUDGET

Attachments: 2017-0659 Legistar Packet

C.52017-0594

2017 WATER MASTER PLAN UPDATE:

A RESOLUTION TO ACCEPT AND ADOPT THE 2017 WATER MASTER PLAN UPDATE

Attachments: 2017 WATER MASTER PLAN UPDATE

C.62017-0679

CITY OF GREENLAND WASTEWATER CONTRACT:

A RESOLUTION TO APPROVE A FIFTEEN (15) YEAR CONTRACT WITH THE CITY OF GREENLAND TO ACCEPT AND PROCESS THEIR WASTEWATER AND TO AUTHORIZE MAYOR JORDAN TO SIGN THIS CONTRACT

Attachments: CITY OF GREENLAND WASTEWATER CONTRACT

C.72017-0654

ALLGEIER, MARTIN AND ASSOCIATES, INC.:

A RESOLUTION TO AUTHORIZE A PROFESSIONAL ENGINEERING SERVICES AGREEMENT WITH ALLGEIER, MARTIN AND ASSOCIATES, INC., PURSUANT TO RFQ #17-01, IN AN AMOUNT NOT TO EXCEED \$480,049.00 FOR THE ENGINEERING DESIGN AND ENGINEERING OBSERVATION AND MANAGEMENT SERVICES ASSOCIATED WITH ELECTRICAL REHABILITATION AND IMPROVEMENTS AT THE PAUL R. NOLAND WASTEWATER TREATMENT PLANT, TO APPROVE A PROJECT CONTINGENCY IN THE AMOUNT OF \$48,004.90, AND TO APPROVE A BUDGET ADJUSTMENT

Attachments: ALLGEIER, MARTIN AND ASSOCIATES, INC.
BA ALLGEIER, MARTIN AND ASSOCIATES, INC.

C.8 2017-0666

CH2M HILL ENGINEERS, INC. AMENDMENT NO. 9:

A RESOLUTION TO APPROVE AMENDMENT NO. 9 TO THE AGREEMENT FOR OPERATIONS, MAINTENANCE AND MANAGEMENT SERVICES BETWEEN THE CITY OF FAYETTEVILLE, ARKANSAS AND CH2M HILL ENGINEERS, INC. IN THE AMOUNT OF \$7,938,833.00 FOR SERVICES IN 2018

Attachments: CH2M HILL ENGINEERS, INC.

D. City Council Agenda Session Presentations:

D.1 2017-0635

AGENDA SESSION PRESENTATION - 2017-2018 DRAINAGE IMPROVEMENTS PLAN

A City Council Tour: Monday, December 4, 2017 4:30 pm.

F. Announcements:

G. Adjournment

Walk on: Sale parcel of land - George's
Last Majestic Lounge
New Business

Pre Agenda Meeting 11-22-17

City of Fayetteville, Arkansas

*113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323*



City Council Agenda Session Tentative Agenda

Tuesday, November 28, 2017

4:30 PM

City Hall Room 326

City Council Members

Adella Gray Ward 1

Sarah Marsh Ward 1

Mark Kinion Ward 2

Matthew Petty Ward 2

Justin Tennant Ward 3

Sarah Bunch Ward 3

John S. La Tour Ward 4

Kyle Smith Ward 4

ELECTED OFFICIALS:

Mayor Lioneld Jordan

City Attorney Kit Williams

City Clerk Sondra Smith

Call To Order

Roll Call

Pledge of Allegiance

Mayor's Announcements, Proclamations and Recognitions

City Council Meeting Presentations, Reports and Discussion Items:

✓ 2017-0539
MONTHLY FINANCIAL REPORT - PAUL BECKER

✓ 2017-0681
ELECTION OF VICE MAYOR

Agenda Additions

A. Consent:

A.✓ 2016-0588
APPROVAL OF THE NOVEMBER 21, 2017 CITY COUNCIL MEETING MINUTES.

A.✓ 2017-0676
ARKANSAS FORESTRY COMMISSION FIREWISE GRANT:

A RESOLUTION TO AUTHORIZE ACCEPTANCE OF AN ARKANSAS FIREWISE GRANT FROM THE ARKANSAS FORESTRY COMMISSION IN THE AMOUNT OF \$500.00 FOR USE BY THE FIRE DEPARTMENT, AND TO APPROVE A BUDGET ADJUSTMENT

Attachments: ARKANSAS FORESTRY COMMISSION FIREWISE GRANT
 BA_ARKANSAS FORESTRY COMMISSION FIREWISE GRANT

A.13 2017-0651

RFP #17-13 GALLAGHER BENEFITS SERVICES:

A RESOLUTION TO AWARD RFP #17-13 AND AUTHORIZE A ONE (1) YEAR CONTRACT WITH GALLAGHER BENEFITS SERVICES IN THE AMOUNT OF \$80,000.00, WITH AUTOMATIC RENEWALS FOR UP TO FOUR (4) ADDITIONAL ONE (1) YEAR TERMS, FOR THE PROVISION OF CITY EMPLOYEE BENEFITS BROKER SERVICES

Attachments: RFP #17-13 GALLAGHER BENEFITS SERVICES:

A.14 2017-0669

BID #17-57 TRUCK CENTERS:

A RESOLUTION TO AWARD BID #17-57 AND AUTHORIZE THE PURCHASE OF A FREIGHTLINER M2-112 ROLL OFF TRUCK FROM TRUCK CENTERS OF SPRINGDALE, ARKANSAS IN THE AMOUNT OF \$148,663.00 FOR USE BY THE RECYCLING AND TRASH COLLECTION DIVISION

Attachments: BID 17-57 TRUCK CENTERS OF ARKANSAS:

A.15 2017-0671

BID #17-58 TRUCK SERVICE CENTER, INC.:

A RESOLUTION TO AWARD BID #17-58 AND AUTHORIZE THE PURCHASE OF A UNICARRIERS PF50LP FORKLIFT FROM LIFT TRUCK SERVICE CENTER, INC. OF SPRINGDALE, ARKANSAS IN THE AMOUNT OF \$23,911.95 FOR USE BY THE WASTEWATER TREATMENT DIVISION

Attachments: BID 17-58 LIFT TRUCK SERVICE CENTER OF SPRINGDALE

A.16 2017-0670

BID #17-62 WILLIAMS TRACTOR:

A RESOLUTION TO AWARD BID #17-62 AND AUTHORIZE THE PURCHASE OF TWO BOBCAT E45 T4 COMPACT TRACK EXCAVATORS FROM WILLIAMS TRACTOR OF FAYETTEVILLE, ARKANSAS IN THE TOTAL AMOUNT OF \$83,988.00 FOR USE BY THE WATER AND SEWER OPERATIONS DIVISION

Attachments: BID #17-62 WILLIAMS TRACTOR

A✓7

2017-0668

BID #17-63 HENARD UTILITY, INC.:

A RESOLUTION TO AWARD BID #17-63 AND AUTHORIZE THE PURCHASE OF A SECA SEWER JETTER TRUCK FROM HENARD UTILITY, INC. OF SEARCY, ARKANSAS IN THE AMOUNT OF \$217,575.00 FOR USE BY THE WATER AND SEWER OPERATIONS DIVISION

Attachments:BID 17-63 HENARD UTILITY PRODUCTS, INC.

A✓8

2017-0667

SPRING STREET PARKING DECK FUND:

A RESOLUTION TO CLOSE THE SPRING STREET PARKING DECK FUND, TRANSFER ABOUT \$243,431.00 REMAINING IN THAT FUND TO THE PARKING FUND AND TO APPROVE THE ATTACHED BUDGET ADJUSTMENT

Attachments:SPRING STREET PARKING DECK FUNDBA SPRING STREET PARKING DECK FUND

A✓9

2017-0672

BKD, LLP:

A RESOLUTION TO APPROVE A ONE YEAR CONTRACT WITH BKD, LLP FOR AUDITING SERVICES FOR THE 2017 AUDIT, WITH AN OPTION TO RENEW FOR UP TO FOUR ADDITIONAL ONE YEAR TERMS

Attachments:BKD.LLP

A✓10

2017-0652

BID #17-56 81 CONSTRUCTION GROUP, INC.:

A RESOLUTION TO AWARD BID #17-56 AND AUTHORIZE A CONTRACT WITH 81 CONSTRUCTION GROUP, INC. IN THE AMOUNT OF \$435,650.00 FOR THE CONSTRUCTION OF THE LAKE SEQUOYAH BASIN 3 ACCESS ROAD, AND TO APPROVE A PROJECT CONTINGENCY IN THE AMOUNT OF \$43,565.00

Attachments:BID #17-56 81 CONSTRUCTION GROUP, INC.

A.V1 2017-0653

MCCLELLAND CONSULTING ENGINEERS, INC.:

A RESOLUTION TO APPROVE A CONTRACT WITH MCCLELLAND CONSULTING ENGINEERS, INC. IN THE AMOUNT OF \$15,200.00 FOR TESTING AND SURVEYING SERVICES ASSOCIATED WITH THE CONSTRUCTION OF THE LAKE SEQUOYAH BASIN 3 ACCESS ROAD PROJECT, AND TO APPROVE A BUDGET ADJUSTMENT

Attachments: MCCLELLAND CONSULTING ENGINEERS, INC.
BA MCCLELLAND CONSULTING ENGINEERS, INC.

A.12 2017-0654

ALLGEIER, MARTIN AND ASSOCIATES, INC.:

A RESOLUTION TO AUTHORIZE A PROFESSIONAL ENGINEERING SERVICES AGREEMENT WITH ALLGEIER, MARTIN AND ASSOCIATES, INC., PURSUANT TO RFQ #17-01, IN AN AMOUNT NOT TO EXCEED \$480,049.00 FOR THE ENGINEERING DESIGN AND ENGINEERING OBSERVATION AND MANAGEMENT SERVICES ASSOCIATED WITH ELECTRICAL REHABILITATION AND IMPROVEMENTS AT THE PAUL R. NOLAND WASTEWATER TREATMENT PLANT, TO APPROVE A PROJECT CONTINGENCY IN THE AMOUNT OF \$48,004.90, AND TO APPROVE A BUDGET ADJUSTMENT

Attachments: ALLGEIER, MARTIN AND ASSOCIATES, INC.
BA ALLGEIER, MARTIN AND ASSOCIATES, INC.

A.13 2017-0655

MCGOODWIN, WILLIAMS AND YATES, INC. AMENDMENT NO. 1:

A RESOLUTION TO APPROVE AMENDMENT NO. 1 TO THE CONTRACT WITH MCGOODWIN, WILLIAMS AND YATES, INC. IN AN AMOUNT NOT TO EXCEED \$74,016.00 FOR CHANGES TO THE DINSMORE TRAIL WATER MAIN PLANS, CONSTRUCTION OBSERVATION AND MANAGEMENT SERVICES, AND ASSISTANCE WITH PRESSURE SUSTAINING VALVES ON THE WATER MAINS

Attachments: MCGOODWIN, WILLIAMS AND YATES, INC.

C. 8
A. 142017-0666

CH2M HILL ENGINEERS, INC. AMENDMENT NO. 9:

A RESOLUTION TO APPROVE AMENDMENT NO. 9 TO THE AGREEMENT FOR OPERATIONS, MAINTENANCE AND MANAGEMENT SERVICES BETWEEN THE CITY OF FAYETTEVILLE, ARKANSAS AND CH2M HILL ENGINEERS, INC. IN THE AMOUNT OF \$7,938,833.00 FOR SERVICES IN 2018

Attachments: CH2M HILL ENGINEERS, INC.

B. Unfinished Business:

B. 1

2017-0650

REZONE COLLEGE AVENUE:

AN ORDINANCE TO REZONE ALL PARCELS WITHIN OR NEAR COLLEGE AVENUE AS SHOWN ON EXHIBIT C OF THE PLANNING DEPARTMENT'S AGENDA MEMO COMPRISING ABOUT 24.62 ACRES

Attachments: REZONE COLLEGE AVENUE

This ordinance was left on the first reading at the November 21, 2017 City Council meeting.

B. 2

2017-0648

AMEND §166.21 DOWNTOWN DESIGN OVERLAY DISTRICT:

AN ORDINANCE TO AMEND §166.21 DOWNTOWN DESIGN OVERLAY DISTRICT BY AMENDING THE APPLICABILITY SECTION TO INCLUDE COLLEGE AVENUE OVERLAY DISTRICT AND TO ENACT §166.26 COLLEGE AVENUE OVERLAY DISTRICT

Attachments: AMEND §166.21 DOWNTOWN DESIGN OVERLAY DISTRICT

This ordinance was left on the first reading at the November 21, 2017 City Council meeting.

C. New Business:

C. 1
C.S.

2017-0594

2017 WATER MASTER PLAN UPDATE:

A RESOLUTION TO ACCEPT AND ADOPT THE 2017 WATER MASTER PLAN UPDATE

Attachments: 2017 WATER MASTER PLAN UPDATE

C. 2
C. 6

2017-0679

CITY OF GREENLAND WASTEWATER CONTRACT:

A RESOLUTION TO APPROVE A FIFTEEN (15) YEAR CONTRACT WITH THE CITY OF GREENLAND TO ACCEPT AND PROCESS THEIR WASTEWATER AND TO AUTHORIZE MAYOR JORDAN TO SIGN THIS CONTRACT

Attachments: CITY OF GREENLAND WASTEWATER CONTRACT

C. 3
C. 1

2017-0628

WALTON FAMILY FOUNDATION DESIGN EXCELLENCE PROGRAM GRANT:

A RESOLUTION TO THANK THE WALTON FAMILY FOUNDATION, TO AUTHORIZE MAYOR JORDAN TO ACCEPT A DESIGN EXCELLENCE PROGRAM GRANT FROM THE WALTON FAMILY FOUNDATION IN THE AMOUNT OF \$1,770,000.00 TO FUND THE DESIGN OF AN INTERACTIVE OUTDOOR CULTURAL ARTS CORRIDOR ALONG THE RAZORBACK REGIONAL GREENWAY, TO AUTHORIZE THE ISSUANCE OF A REQUEST FOR QUALIFICATIONS WITH THE CONDITION THAT ONLY FIRMS PRE-APPROVED BY THE WALTON FAMILY FOUNDATION MAY RESPOND, AND TO APPROVE A BUDGET ADJUSTMENT

Attachments: Legistar Packet - WFF Design Excellence - Cultural Arts Corridor
BA_WALTON FAMILY FOUNDATION DESIGN EXCELLENCE GRANT

C.4

2017-0661

AREA AGENCY ON AGING OF NORTHWEST ARKANSAS:

AN ORDINANCE TO WAIVE THE REQUIREMENTS OF FORMAL COMPETITIVE BIDDING AND APPROVE A CONTRACT BETWEEN THE CITY OF FAYETTEVILLE, ARKANSAS AND THE AREA AGENCY ON AGING OF NORTHWEST ARKANSAS IN THE AMOUNT OF \$98,887.00 TO PROVIDE PUBLIC RECREATION SERVICES FOR THE SENIOR CITIZENS OF FAYETTEVILLE FOR 2018, CONTINGENT ON APPROVAL OF THE 2018 ANNUAL CITY BUDGET AND WORK PROGRAM

Attachments:AREA AGENCY ON AGING OF NORTHWEST ARKANSAS

C.5

2017-0659

FAYETTEVILLE YOUTH CENTER, INC.:

AN ORDINANCE TO WAIVE THE REQUIREMENTS OF FORMAL COMPETITIVE BIDDING AND APPROVE A CONTRACT BETWEEN THE CITY OF FAYETTEVILLE, ARKANSAS AND FAYETTEVILLE YOUTH CENTER, INC. IN THE AMOUNT OF \$225,000.00 TO PROVIDE PUBLIC RECREATION SERVICES FOR THE YOUTH AND CITIZENS OF FAYETTEVILLE FOR 2018 CONTINGENT UPON APPROVAL OF THE 2018 CITY BUDGET

Attachments:2017-0659 Legistar Packet

C.6

2017-0660

THEATRESQUARED, INCORPORATED:

A RESOLUTION TO EXPRESS THE CITY COUNCIL'S ACCEPTANCE AND APPROVAL OF THEATRESQUARED, INCORPORATED'S PLEDGES AND FINANCIAL COMMITMENTS AS SUFFICIENT TO ENSURE COMPLETION OF THEATRESQUARED'S \$31,500,000.00 THEATER PROJECT, AND TO AUTHORIZE MAYOR JORDAN TO INVEST THE PROMISED \$3,100,000.00 AS CONSTRUCTION REIMBURSEMENTS PURSUANT TO THE CONTRACT OF JUNE 28, 2017

Attachments:THEATRESQUARED, INCORPORATED**D. City Council Agenda Session Presentations:**

D. 1 2017-0635

AGENDA SESSION PRESENTATION - 2017-2018 DRAINAGE
IMPROVEMENTS PLAN

E. City Council Tour:

F. Announcements:

G. Adjournment

