

**CITY OF MIRAMAR
FIREFIGHTERS' RETIREMENT PLAN**

Required Supplementary Information

Under GASB No. 67

Fiscal Year October 1, 2017
through September 30, 2018

**DuLaney and Company, Inc.
Actuarial Services**

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Disclosures Related to the City of Miramar Firefighters' Retirement Plan - GASB 67**Net Pension Liability of the City**

The components of the net pension liability of the City at September 30, 2018 were as follows:

	2018
Total pension liability	\$ 187,831,847
Plan fiduciary net position	(157,074,650)
City net pension liability	\$ 30,757,197

Plan fiduciary net position as a percentage of total pension liability 83.63%

Actuarial Assumptions

The total pension liability at September 30, 2018 was determined using an actuarial valuation as of October 1, 2017, with update procedures used to roll forward the total pension liability to September 30, 2018. The actuarial valuation used the following actuarial assumptions:

Inflation	3.00%
Projected salary increases	6.00%
Investment rate of return	8.15% compounded annually, net of pension plan investment expense, including inflation.

Mortality

Pre-Retirement:

Female Non-Disabled: RP2000 Generational, 100% Combined Healthy with White Collar Adjustment, Scale BB

Male Non-Disabled: RP2000 Generational, 10% Combined Healthy with White Collar Adjustment / 90% Combined Healthy with Blue Collar Adjustment, Scale BB

Post-Retirement:

Female Non-Disabled: RP2000 Generational, 100% Annuitant White Collar, Scale BB

Male Non-Disabled: RP2000 Generational, 50% Annuitant White Collar / 50% Annuitant Blue Collar, Scale BB

Pre-Retirement & Post-Retirement:

Female Disabled: 60% RP2000 Disabled Female set forward two years / 40% Annuitant White Collar with no setback, no projection scale

Male Disabled: 60% RP2000 Disabled Male setback four years / 40% Annuitant White Collar with no setback, no projection scale

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Disclosures Related to the City of Miramar Firefighters' Retirement Plan - GASB 67**Determination of the Long-Term Rate of Return on Plan Assets**

Large Cap Equity	36.0%	5.7%
Mid Cap Equity	9.0%	8.4%
Small Cap Equity	10.0%	7.6%
Int'l Equity	7.5%	3.8%
Emerging Markets	7.5%	10.3%
Real Assets	15.0%	5.5%
Fixed Income	15.0%	1.6%
Total / Weighted Arithmetic Average	100%	5.69%
Assumed Rate of Inflation		3.00%
Expected Nominal Long Term Rate of Return		8.69%

† For illustrative purposes, historical long term average returns have been used as a reasonable expectation of returns.

Discount Rate

The discount rate used to measure the total pension liability was 8.15%. The projection of cash flows used to determine the discount rate assumed that Trust member contributions will be made at the current contribution rates and that contributions from the City will be made at statutorily required rates, actuarially determined. Based on those assumptions, the Trust's fiduciary net position was projected to be available to make all projected future benefit payments of current Trust members. Therefore, the long term expected rate of return on pension Trust investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of the Net Pension Liability to Changes in the Discount Rate

The following presents the net pension liability of the City using the discount rate of 8.15%, as well as what the employer net pension liability would if it were calculated using a discount rate that is 1-percentage-point lower (7.15 percent) or 1-percentage-point higher (9.15 Percent) than the current rate:

	City Net Pension Liability		
	1% Decrease (7.15%)	Current Discount Rate (8.15%)	1% Increase (9.15%)
September 30, 2018	\$ 54,347,750	\$ 30,757,197	\$ 12,501,259

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Disclosures Related to the City of Miramar Firefighters' Retirement Plan - GASB 67

Schedule I

Schedule of Changes in the City's Net Pension Liability

	9/30/2018	9/30/2017	9/30/2016	9/30/2015
Total Pension Liability				
Service Cost	\$ 3,006,856	2,811,233	2,676,320	2,551,281
Interest	14,338,805	13,043,840	11,873,785	10,841,607
Changes of benefit terms	-	-	-	-
Difference Between Expected and Actual Experience	3,940,516	1,384,702	(16,192)	(933,871)
Changes of Assumptions	2,989,821	2,502,214	6,154,581	14,871,846
Benefit Payments, including Refunds of Member Contributions	(4,886,434)	(5,417,407)	(3,361,511)	(3,198,410)
Net Change in Total Pension Liability	19,389,564	14,324,582	17,326,983	24,132,453
Total Pension Liability-Beginning	168,442,283	154,117,701	136,790,718	112,658,265
Total Pension Liability-Ending	187,831,847	168,442,283	154,117,701	136,790,718
Plan Fiduciary Net Position				
Contributions - Employer	6,888,087	5,871,432	4,944,586	4,909,366
Contributions - State	989,693	966,694	990,464	981,731
Contributions - Member	2,777,837	3,724,060	1,268,018	1,158,659
Net Investment Income	13,833,470	15,252,940	9,476,199	246,290
Benefit Payments, including Refunds of Member Contributions	(4,886,434)	(5,417,407)	(3,361,511)	(3,198,410)
Administrative Expense	(174,259)	(199,195)	(191,933)	(165,198)
Other	-	-	-	-
Net Change in Plan Fiduciary Net Position	19,428,394	20,198,524	13,125,823	3,932,438
Plan Fiduciary Net Position - Beginning	137,646,256	117,447,732	104,321,909	100,389,471
Plan Fiduciary Net Position - Ending	\$ 157,074,650	\$ 137,646,256	\$ 117,447,732	\$ 104,321,909
City's Net Pension Liability	\$ 30,757,197	\$ 30,796,027	\$ 36,669,969	\$ 32,468,809
Total Pension Liability	\$ 187,831,847	168,442,283	154,117,701	136,790,718
Plan Fiduciary Net Position	157,074,650	137,646,256	117,447,732	104,321,909
City's net pension liability	\$ 30,757,197	\$ 30,796,027	\$ 36,669,969	\$ 32,468,809
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	83.63%	81.72%	76.21%	76.26%
Covered-Employee Payroll	\$ 11,648,795	11,443,779	11,226,760	11,575,085
City's Net Pension Liability as a Percentage of Covered-Employee Payroll	264.04%	269.11%	326.63%	280.51%

* Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.



Disclosures Related to the City of Miramar Firefighters' Retirement Plan - GASB 67

Schedule I (continued two)
 Schedule of Changes in the City's Net Pension Liability

	9/30/2014
Total Pension Liability	
Service Cost	\$ 1,961,023
Interest	10,192,417
Changes of benefit terms	-
Difference Between Expected and Actual Experience	-
Changes of Assumptions	-
Benefit Payments, including Refunds of Member Contributions	(3,076,805)
Net Change in Total Pension Liability	9,076,635
Total Pension Liability-Beginning	103,581,630
Total Pension Liability-Ending	112,658,265
Plan Fiduciary Net Position	
Contributions - Employer	4,637,629
Contributions - State	1,124,210
Contributions - Member	1,068,264
Net Investment Income	10,211,465
Benefit Payments, including Refunds of Member Contributions	(3,076,805)
Administrative Expense	(151,048)
Other	-
Net Change in Plan Fiduciary Net Position	13,813,715
Plan Fiduciary Net Position - Beginning	86,575,756
Plan Fiduciary Net Position - Ending	\$100,389,471
City's Net Pension Liability	\$12,268,794
Total Pension Liability	\$ 112,658,265
Plan Fiduciary Net Position	100,389,471
City's net pension liability	\$12,268,794
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	89.11%
Covered-Employee Payroll	\$ 11,317,117
City's Net Pension Liability as a Percentage of Covered- Employee Payroll	108.41%



Disclosures Related to the City of Miramar Firefighters' Retirement Plan - GASB 67

Schedule II

Schedule of Contributions by Employer

	2018	2017	2016	2015	2014
Actuarially determined contribution	\$ 6,888,087	\$ 5,871,432	\$ 5,150,913	\$ 5,107,415	\$ 4,843,956
Contributions in relation to the actuarially determined contribution	6,888,087	5,871,432	5,150,913	5,115,693	4,843,956
Contribution deficiency (excess)	\$ -	\$ -	\$ -	\$ (8,278)	\$ -
Covered-employee payroll	\$ 11,648,795	\$ 11,443,779	\$ 11,226,760	\$ 11,317,117	\$ 10,685,982
Contributions as a percentage of covered-employee payroll	59.1%	51.3%	45.9%	45.2%	45.3%
Actuarially determined contribution	\$ 4,228,032	\$ 3,871,266	\$ 3,617,946	\$ 3,263,701	\$ 3,158,881
Contributions in relation to the actuarially determined contribution	4,228,032	3,871,266	3,617,946	3,263,701	3,158,881
Contribution deficiency (excess)	\$ -	\$ -	\$ -	\$ -	\$ -
Covered-employee payroll	\$ 10,480,991	\$ 10,034,385	\$ 10,174,202	\$ 10,126,283	\$ 10,105,187
Contributions as a percentage of covered-employee payroll	40.3%	38.6%	35.6%	32.2%	31.3%



Disclosures Related to the City of Miramar Firefighters' Retirement Plan - GASB 67**Schedule III****Schedule of Investment Returns
For the Year Ended September 30, 2018**

Annual money-weighted rate of return, net of investment expense:

<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
9.9%	12.5%	9.1%	0.4%	12.0%
<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>	<u>2009</u>
19.9%	20.9%	(1.8%)	9.8%	(7.8%)

The annualized compounded return is 8.13%.

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Disclosures Related to the City of Miramar Firefighters' Retirement Plan - GASB 67**Notes to Required Supplementary Information***Method and assumptions used in calculations of the City's actuarially determined contributions*

The actuarially determined contribution rates in the schedule of the City's contributions are calculated as of October 1, 2016. Unless otherwise noted above, the following actuarial methods and assumptions were used to determine contribution rates reported in the Schedule of the City's contributions.

1. Mortality:

Female Non-Disabled: RP2000 Generational, 100% Annuitant White Collar, Scale BB

Male Non-Disabled: RP2000 Generational, 10% Annuitant White Collar / 90% Annuitant Blue Collar, Scale BB

Female Disabled: 60% RP2000 Disabled Female set forward two years / 40% Annuitant White Collar with no setback, no projection scale

Male Disabled: 60% RP2000 Disabled Male setback four years / 40% Annuitant White Collar with no setback, no projection scale

2. Interest to be Earned by Fund:

8.25%, compounded annually.

3. Allowances for Expenses or Contingencies:

Administrative expenses estimated to be \$191,933 for the 2016/2017 plan year.

4. Employee Withdrawal Rates:

The following are illustrative withdrawal rates assumed:

<u>Age</u>	<u>Withdrawal Rates Per 1,000 Employees</u>
20	140.0
25	110.6
30	65.8
35	32.2
40	16.8
45	9.8
50	0.0

Disclosures Related to the City of Miramar Firefighters' Retirement Plan - GASB 67**Notes to Required Supplementary Information
(continued two)**5. Disability Rates:

The assumed disability rates are illustrated by the following example rates:

<u>Age</u>	<u>Disability Rates Per 1,000 Employees</u>
20	2.0
25	2.0
30	3.6
35	4.6
40	6.0
45	10.2
50	20.0
55 & over	0.0

In addition, 80% of disabilities assumed to be service incurred and 20% assumed to be non-service incurred.

6. Salary Increase Factors:

Current salaries are assumed to increase due to merit and longevity at 6.00% per year for the first six (6) years of service and 1.00% per year thereafter. Furthermore, salaries are assumed to have an additional increase equal to the increase in the Consumer Price Index.

7. Rates of Retirement:

The following are the retirement rates assumed for the participants eligible for retirement / DROP:

<u>Participants with 10 -- 24 years of service</u>		<u>Participants with at least 25 years of service</u>
<u>Age</u>	<u>Percentage Retirement</u>	<u>Percentage Retirement</u>
Less than 50	0%	100%
50	1%	100%
51 to 54	2%	100%
55 to 59	50%	100%
60 & over	100%	100%

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**Notes to Required Supplementary Information
(continued three)**

8. Asset Valuation Method:

The actuarial value of assets is determined by smoothing the differences between actual investment earnings and assumed investment return over five (5) years, and then subtracting the total smoothed difference from the market value of assets. This method was adopted effective October 1, 2011. The resulting value would then be limited to between 80% and 120% of market value.

9. Cost Methods:

Projected Unit Credit Method

10. Marriage Assumptions:

85% of active participants are assumed married, with husbands three (3) years older than wives.

11. Deferred Retirement Option Plan (DROP) Elections Assumptions:

75% of those assumed to take normal retirement benefits are assumed to participate in the DROP, with the assumed length of participation of five (5) years.

12. Consumer Price Index Increase Assumption:

The Consumer Price Index is assumed to increase by 3.00% annually.

13. Changes from Most Recent Actuarial Valuation:

1. The mortality table was changed to that described in Item 1.
2. The assumed administrative expenses were changed from \$165,198 to \$191,933 for the plan/fiscal year.