



Gallagher Benefit Services, Inc.

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# Gallagher Benefit Services, Inc.



## The City of Bismarck Employees' Pension Plan

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# THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

## ACTUARIAL CERTIFICATION

January 1, 2011 to December 31, 2011

In our opinion, the following report presents fairly the January 1, 2011 Actuarial Valuation of The City of Bismarck Employees' Pension Plan in accordance with Generally Accepted Actuarial Principles and Practices.

Our Actuarial Valuation has been conducted with reliance upon Participant information and financial information provided to us by the City of Bismarck. The accuracy of the information in this report is dependent on the quality and completeness of the information provided to us. We have reviewed the information provided to us for general reasonableness. The valuation was performed on the basis of the Participant data, Plan Provisions, actuarial assumptions, and actuarial methods stated in this report.

The actuarial assumptions used in this report were selected by the City of Bismarck, with the agreement of Gallagher Benefit Services, Inc. The assumptions were modified effective January 1, 2006 to reflect the results of an Experience Study for the period from January 1, 1998 through December 31, 2004. In our opinion, the actuarial assumptions used (a) each, and in the aggregate, are reasonably related to the experience of the plan and to reasonable expectations, and (b) in the aggregate, represent our best estimate of anticipated experience under the plan.

To the best of our knowledge, the information contained in this report is complete and accurate.



Douglas A. Anderson, A.S.A., M.A.A.A., E.A.  
Enrollment Number 11-05012

4-29-2011

Date



Benjamin M. Holle, E.A.  
Enrollment Number 11-07400

4-29-2011

Date



# THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

## COMMENTARY

In this report we present the results of the January 1, 2011 Actuarial Valuation of the City of Bismarck Employees' Pension Plan. There were no changes in actuarial assumptions or plan provisions since the last report. This report reflects no Cost of Living Adjustment (COLA) for retirees effective January 1, 2011.

### Annual Required Contribution

We recommend that the City contribution be at least equal to the Annual Required Contribution developed under the Entry Age Normal actuarial cost method. On this basis, a contribution of \$1,904,777 (10.9% of covered payroll) is recommended for the 2011 plan year. The calculation of this contribution is illustrated in Exhibit 12.

### Expected City Contribution

The City commission has approved that the City contribution will be 10.4% of salary. The expected contribution for 2011 on this basis is \$1,810,523 (10.4% of payroll).

### Contribution Requirements

The valuation results are shown on page 3 in a comparison between 2010 and 2011. The 2010 calculation, developed in the first column, shows an UAAL of \$13,233,536 and with a City payment of \$1,781,991 for 2010 and \$1,810,523 for 2011 plus future contributions of 10.4% of covered payroll, an amortization period of 57 years.

The calculation for 2011 shows an UAAL of \$11,511,392 and, with a City payment of \$1,810,523 for 2011, an amortization period of 44 years.

### Funding Ratio

On a plan assumptions basis, plan assets cover 105% of the Present Value of Accumulated Plan Benefits. More detail is contained on page 20. Last year plan assets covered 103% of the Present Value of Accumulated Plan Benefits.

### GASB No. 25 and No. 27

Information required by Statements No. 25 and No. 27 of the Governmental Accounting Standards Board is summarized on pages 21 and 22.

## THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

### SUMMARY OF RESULTS

	1/1/10	1/1/11	Percent Change
1. Number of Participants			
(a) Active	388	396	2.1%
(b) Terminated vested	32	35	9.4%
(c) Retired	<u>126</u>	<u>130</u>	3.2%
(d) Total Participants	546	561	2.7%
2. Annual covered salaries for Participants under age 62	\$ 17,134,528	\$ 17,408,878	1.6%
3. Actuarial Accrued Liability			
(a) Active Participants	\$ 45,074,582	\$ 48,921,423	8.5%
(b) Terminated vested Participants	1,489,576	1,759,162	18.1%
(c) Retired Participants	<u>17,553,218</u>	<u>17,985,482</u>	2.5%
(d) Total Actuarial Accrued Liability = (a)+(b)+(c)	\$ 64,117,376	\$ 68,666,067	7.1%
4. Actuarial Value of Assets	\$ <u>50,883,840</u>	\$ <u>57,154,675</u>	12.3%
5. Unfunded Actuarial Accrued Liability = (3)(d)-(4)	\$ 13,233,536	\$ 11,511,392	(13.0%)
6. Expected annual financial support by City	\$ 1,781,991	\$ 1,810,523	1.6%
7. Annual Required Contribution	\$ 1,958,692	\$ 1,904,777	(2.8%)
8. Amortization period at expected level of funding	57 years <sup>1</sup>	44 years <sup>2</sup>	(22.8%)

<sup>1</sup> Amortization period based on \$1,781,991 for 2010, and \$1,810,523 in 2011, and increasing due to total salary growth at the rate of 3.0% annually thereafter.

<sup>2</sup> Amortization period based on \$1,810,523 contribution for 2011, and increasing due to total salary growth at the rate of 3.0% annually thereafter.



Gallagher Benefit Services, Inc.

# THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

## EXHIBIT 1 Summary of Plan Provisions

The following summary has been prepared for valuation purposes only. It outlines the Provisions found in Chapter 9-07 (City Employees' Pension) necessary to perform the Actuarial Valuation, as interpreted by Gallagher Benefit Services Inc.

### Definitions

<b>Actuarial Equivalence Factors:</b>	In calculating the actuarial equivalence of one form of benefit to another, the interest rate to be used shall be 7.0% and the mortality table to be used shall be the "applicable mortality table" as defined by Section 417(e)(3) of the Code (9-07-10).
<b>Average Basic Monthly Compensation:</b>	The average of the monthly base compensation of a Participant over the highest 36 month period of employment. Monthly base compensation excludes overtime, bonuses, severance payments, and other remuneration in excess of base compensation (9-07-15(1)).
<b>Effective Date of the Plan:</b>	January 1, 1966.
<b>Early Retirement Date:</b>	Participants who have completed 60 consecutive months of contributing service and have attained age 50 are eligible for a monthly pension benefit (9-07-15(2)).
<b>Membership Fee:</b>	Every full-time employee of the City of Bismarck except police officers and fire fighters shall be assessed and required to pay an amount of 5.0% of their basic salary (9-07-01).
<b>Normal Form of Benefit:</b>	Married Participants receive a Joint & Two-Thirds to Survivor annuity. Single Participants receive a Life Only annuity.
<b>Normal Retirement Date:</b>	Participants who have attained age 62 are eligible for a monthly pension benefit (9-07-15(1)).
<b>Plan Year:</b>	January 1 <sup>st</sup> through December 31 <sup>st</sup> (9-07-08).
<b>Recognized Service:</b>	Full and fractional years of contributing service during which the employee contributed to the fund (9-07-23). Military service will be included as part of the period of service with the City provided that the period does not exceed 5 years and the employee pays into the fund 5.0% of the lesser of the last full year's salary paid by the City or military salary for each year of military service (9-07-05).



# THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

## EXHIBIT 1 (Continued) Summary of Plan Provisions

### Plan Provisions

**Eligibility:** Every full-time employee, other than members of the Police Department who are sworn officers, members of the firefighter's relief association, and employees who perform fire suppression duties. (9-07-11).

**Normal Retirement Benefit:** Participants serving until the Normal Retirement Date are eligible for a monthly pension benefit computed by multiplying his or her highest 36 months of Average Basic Monthly Compensation times 1.75% times his or her number of full and fractional years of Recognized Service prior to January 1, 2005 plus 2.25% times his or her number of full and fractional years of Recognized Service after December 31, 2004. (9-07-15(1)).

**Early Retirement Benefit:** The monthly pension benefit shall be equal to the Normal Retirement Benefit actuarially reduced for payments commencing prior to age 62 (9-07-15(2)). The reduction factors are as follows:

Age	Factor	Age	Factor
50	.4287	57	.6841
51	.4567	58	.7353
52	.4870	59	.7918
53	.5199	60	.8542
54	.5557	61	.9233
55	.5947	62	1.000
56	.6373		

**Termination Benefit:** After 60 consecutive months of contributing service and termination of employment, a Participant may elect a deferred retirement benefit to commence at an elected age 50 to 62. The Participant's deferred benefit shall equal the Normal Retirement Benefit (based on service and compensation to the date of termination) actuarially reduced for early commencement (9-07-15(3)).





## THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

### EXHIBIT 1 (Continued) Summary of Plan Provisions

#### **Death Benefit:**

The surviving spouse (while unmarried) receives 2/3 of the actuarially reduced pension to which the Participant would have been entitled, but not less than \$65 per month provided the Participant served at least 60 consecutive months of contributing service (9-07-15(4)).

The surviving spouse has the option to elect a refund of contributions in lieu of the above-mentioned benefit (9-07-15(5)).

If there is no surviving spouse, the Participant's contributions are paid to the Participant's estate (9-07-15(6)).

#### **Refund of Contributions:**

Any Participant who has contributed to the plan and terminates employment before being entitled to a pension shall be entitled to a refund of all contributions made by him to the pension system with accumulated interest. Interest of 5% per year will be credited on such contributions made after July 1, 1972. Interest of 2.5% per year will be credited on such contributions made prior to July 1, 1972.

Any Participant electing a refund of contributions forfeits all rights to any other form of benefit under this plan (9-07-14).

#### **Cost of Living Adjustments:**

Persons receiving pension payments shall be eligible for cost of living adjustments in an amount determined by the Board of Trustees. The adjustment may not exceed the lesser of the City employees' salary adjustment or 3% (9-07-16).



## THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

### EXHIBIT 2 Census Summary and Reconciliation

	1/1/10	1/1/11	Percent Change
<b>Active Participants</b>			
▪ Number of Participants			
– Fully vested	258	267	3.5%
– Non-vested	<u>130</u>	<u>129</u>	(0.8%)
– Total	<u>388</u>	<u>396</u>	2.1%
▪ Average age	47.3	47.9	1.3%
▪ Average service	13.3	13.6	2.3%
▪ Average salary	\$ 44,850	\$ 45,633	1.7%
<b>Terminated Vested Participants</b>			
▪ Number of Participants	32	35	9.4%
▪ Average age	50.4	51.2	1.6%
▪ Average years since termination	6.0	6.4	6.7%
▪ Average monthly benefit at Normal Retirement	\$ 692.84	\$ 707.97	2.2%
<b>Retired Participants</b>			
▪ Number of Participants	126	130	3.2%
▪ Average age	73.4	74.0	0.8%
▪ Average years since retirement	10.3	10.9	5.8%
▪ Average monthly benefit	\$ 1,313.61	\$ 1,321.86	0.6%

## THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

### EXHIBIT 3 Participant Reconciliation

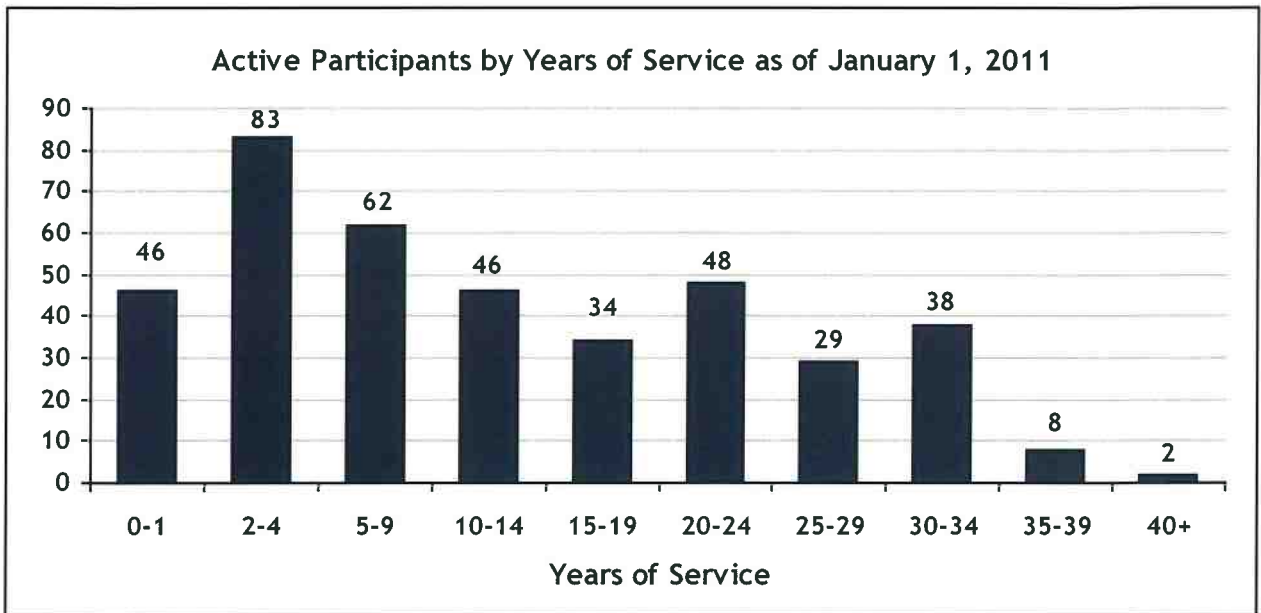
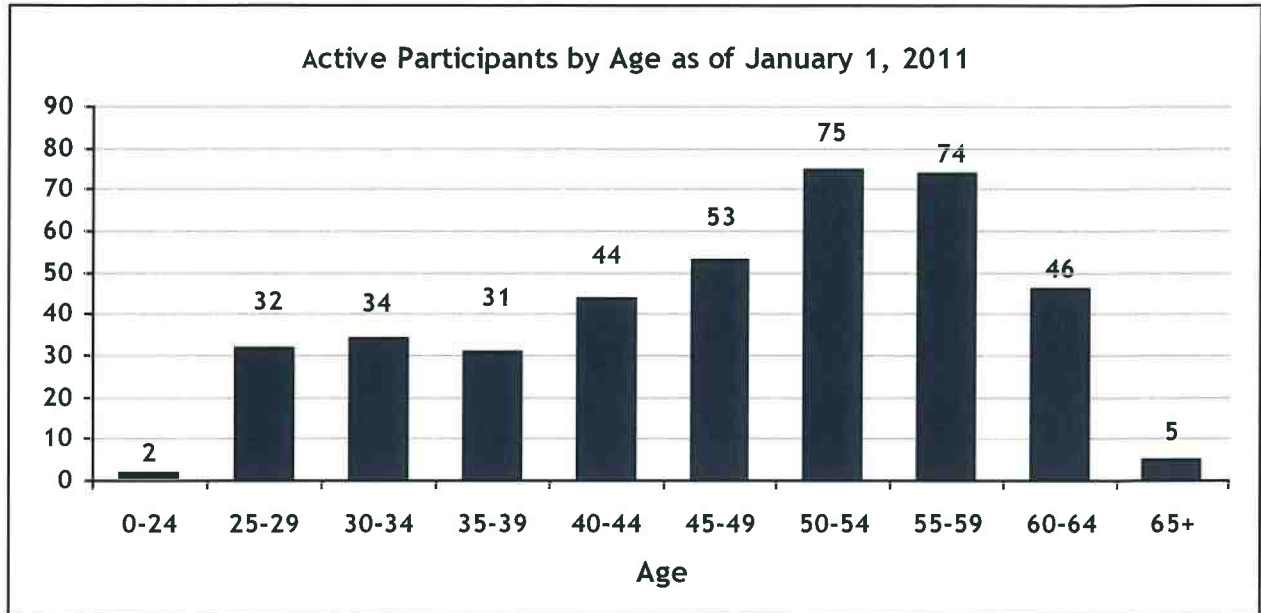
The following information provides the reconciliation from January 1, 2010 to January 1, 2011 of Plan Participants.

	Active	Terminated Vested	Retired	Disabled	Beneficiary	Total
1/1/2010 Participants	388	32	95	0	31	546
New Participants	20	-	-	-	-	20
Terminated vested	(3)	3	-	-	-	0
Terminated non-vested	(6)	-	-	-	-	(6)
Retired	(4)	-	4	-	-	0
Disabled	-	-	-	-	-	0
Died with beneficiary	-	-	(1)	-	1	0
Died without beneficiary	-	-	-	-	-	0
Benefit stopped	-	-	-	-	-	0
Paid-out lump sum	-	-	-	-	-	0
Data corrections	1	-	-	-	-	1
1/1/2011 Participants	396	35	98	0	32	561

During 2010 the total Participant count increased by 15 due to 20 new Participants and 1 net data correction offset by 6 Participants that terminated employment and received a return of their employee contributions. There were 3 Participants that moved from active to terminated vested status and 4 Participants retired during the year. There was 1 Participant death during 2010 with benefits to a beneficiary. There were data corrections for 3 Participants who were hired in 2009 and 2 Participants who terminated employment and received a return of their employee contributions during 2009.

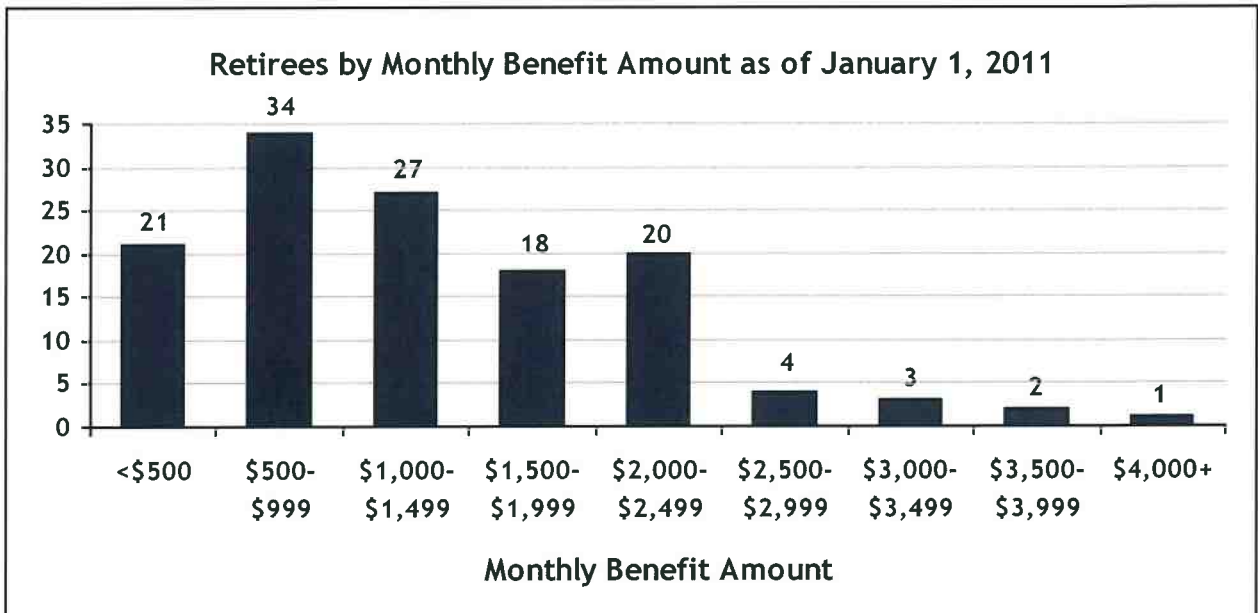
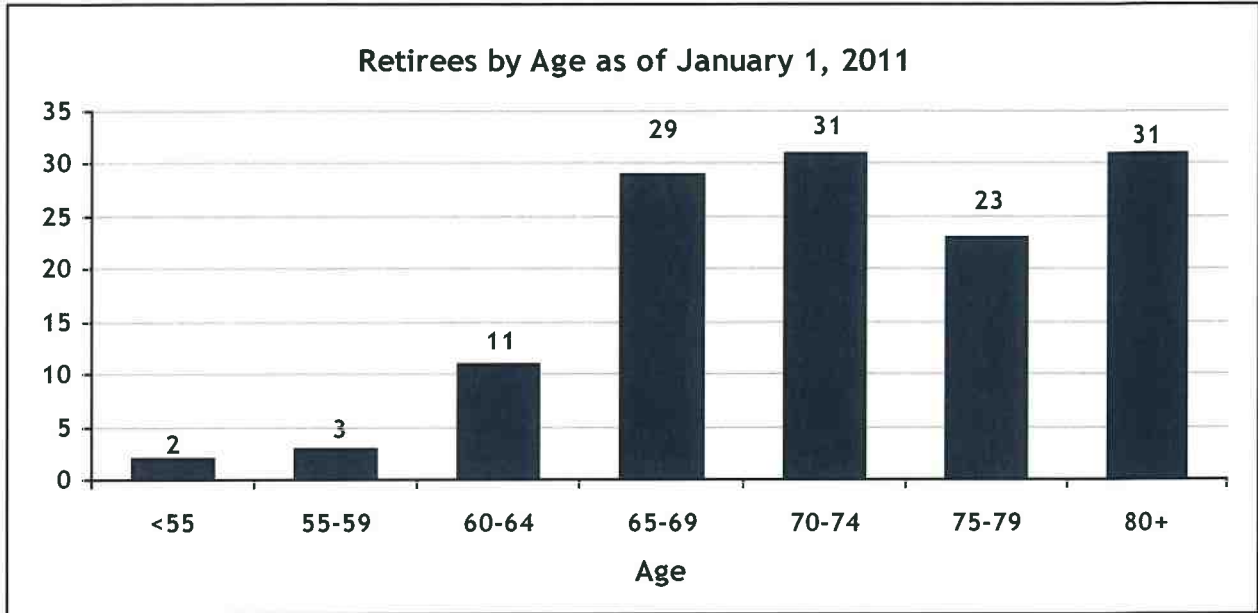
# THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

## EXHIBIT 4 Active Participant Data



# THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

## EXHIBIT 5 Retired Participant Data



Retirees include those on service retirement, disability retirement and beneficiaries with survivor benefits.

## THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

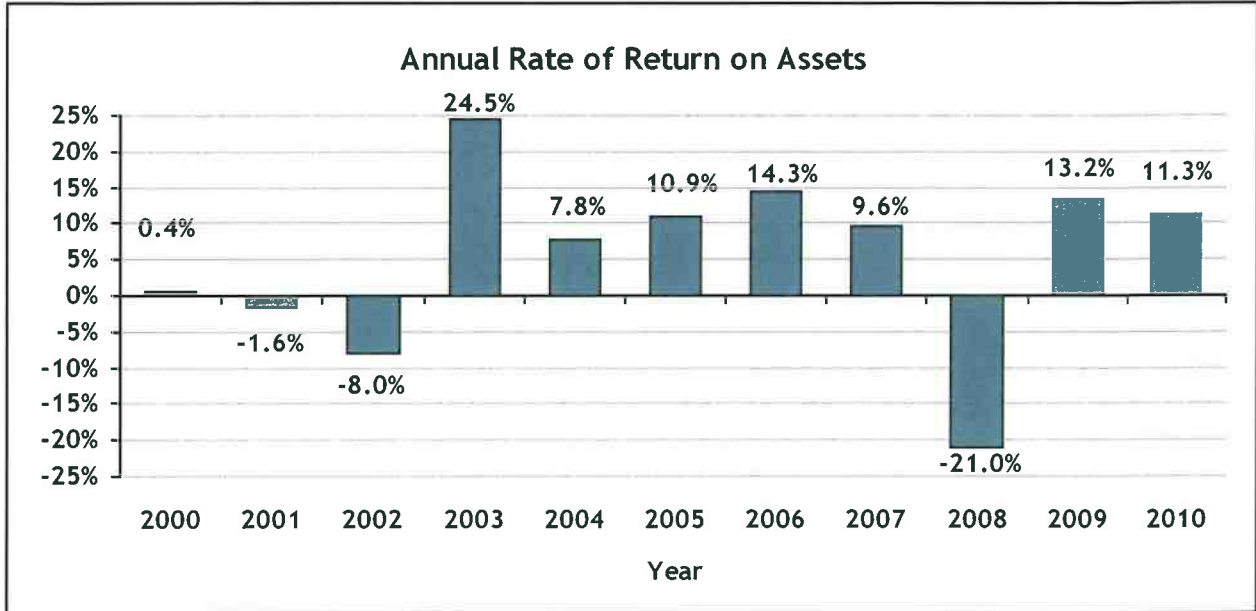
### EXHIBIT 6 Reconciliation of Assets

<b>1. Beginning Balance as of January 1, 2010</b>		\$ 50,883,840
<b>2. Revenue</b>		
(a) Employer's Contribution		
(i) General Property Tax	\$ 878,668	
(ii) Mobile Home Tax	8,375	
(iii) Homestead Credit	4,517	
(iv) Disabled Veteran Credit	2,763	
(v) State Payment in Lieu of Tax	107,971	
(vi) Park & Rec. Contribution	185,318	
(vii) Department Contribution	\$ <u>674,474</u>	
(viii) Total City Contribution	1,862,086	
(b) Employee's Contribution	914,306	
(c) Investment Income (Loss)	<u>5,793,226</u>	
(d) Total Revenue		\$ 8,569,618
<b>3. Expenditure</b>		
(a) Pension Benefit Payments	\$ 2,020,887	
(b) Professional & Legal Fees	621	
(c) Management Consulting	13,260	
(d) Administration Fees	22,411	
(e) Investment Expense	199,471	
(f) Pension Refund	41,548	
(g) Postage	<u>585</u>	
(h) Total Expenditure		\$ <u>2,298,783</u>
<b>4. Net Income (Loss)</b>		\$ <u>6,270,835</u>
<b>5. Ending Balance as of December 31, 2010</b>		\$ <u>57,154,675</u>

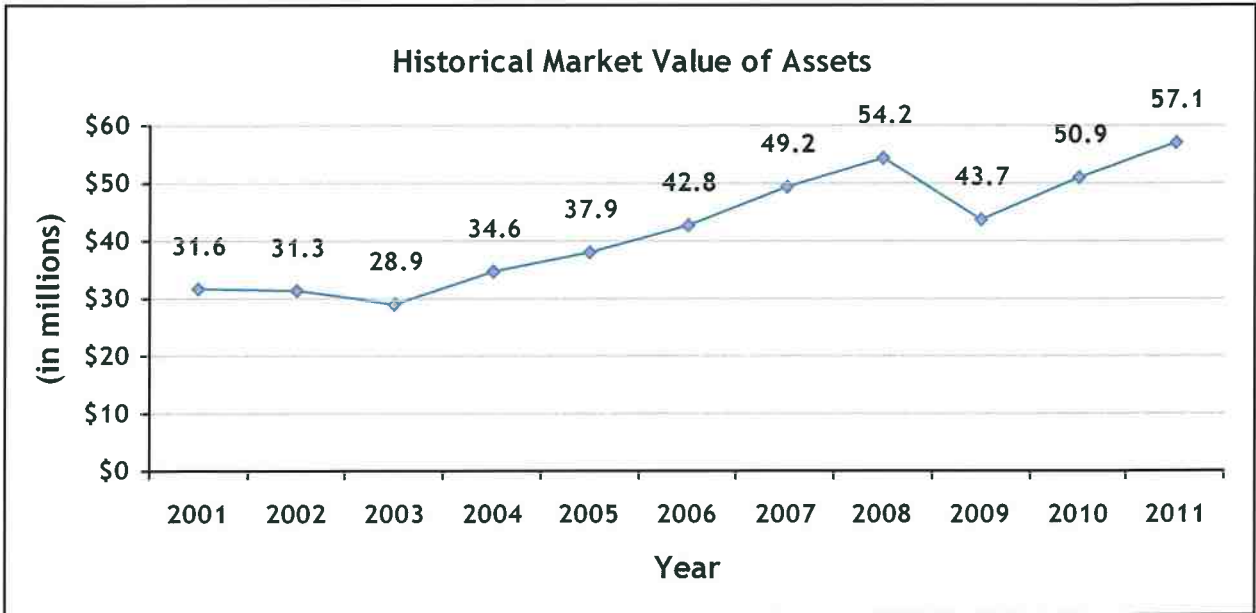
Total assets increased \$6,270,835 during 2010. This increase was from net cash flow (total contributions less expenditures) of \$477,609, and an investment gain of \$5,793,226. Some components were rounded up or down to ensure that the totals would add correctly. The net rate of return after expenses was 11.3%.

# THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

## EXHIBIT 7 Historical Asset Information



Rates of return are determined after expenses. Calculations prior to 2004 exclude the employee accumulation fund (Kemper Account).



## THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

### EXHIBIT 8 Actuarial Assumptions and Cost Methods

#### Economic Assumptions

**Investment Return:** The Fund is assumed to earn 7.5% per year after expenses.

**Salary Scale:** Active Participant Salaries are assumed to increase at rates according to the following table:

Years of Service	Rate
0-9	5.0%
10+	4.0%

**Inflation:** The amortization of the Unfunded Actuarial Accrued Liability is determined as a level percent of payroll using a 3% total payroll growth assumption.

#### Demographic Assumptions

**Retirement:** Active Participants are assumed to retire upon attainment of age 62.

**Mortality:** Mortality rates are based on the 1994 Group Annuity Mortality Table (See Illustrations on Page 14).

**Disability:** None.

**Withdrawal:** Active Participant termination rates are based on plan experience between 1/1/98 and 1/1/05 (See Illustrations on Page 14).

**Spouse Age:** Male Participants are assumed to be 3 years older than female spouses. Female Participants are assumed to be 3 years younger than male spouses.

**Marriage Rate:** 85% of Participants are assumed to be married.



## THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

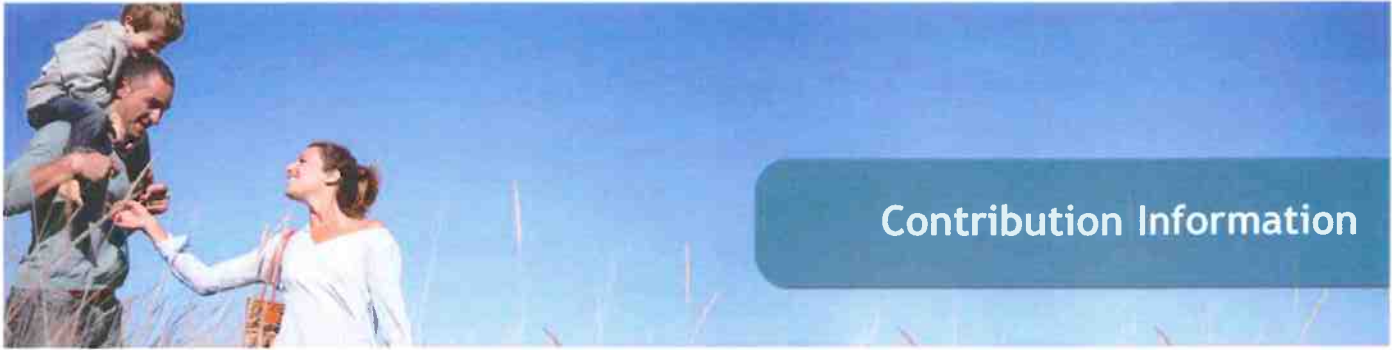
### EXHIBIT 8 (Continued) Actuarial Assumptions and Cost Methods

#### Cost Methods

<b>Form of Benefit:</b>	Married Participants receive their benefit in the form of a Joint and Two Thirds to Survivor annuity. Single Participants receive their benefit in the form of a Life Only annuity.
<b>Actuarial Asset Value:</b>	The Actuarial Value of Assets is equal to the Market Value of Assets reserved for employee pension benefits.
<b>Expenses:</b>	Plan expenses are paid from plan assets.
<b>Funding Method:</b>	The contribution requirement is determined using the Entry Age Normal actuarial cost method.

#### Illustrations

Age	Rate of Mortality (per 1,000)		Rate of Disability (per 1,000)		Rate of Withdrawal (per 1,000)	
	Male	Female	Male	Female	Male	Female
25	0.66	0.29	0.00	0.00	40	200
30	0.80	0.35	0.00	0.00	40	50
35	0.85	0.48	0.00	0.00	30	50
40	1.07	0.71	0.00	0.00	25	40
45	1.58	0.97	0.00	0.00	20	20
50	2.58	1.43	0.00	0.00	10	20
55	4.43	2.29	0.00	0.00	0	0



Gallagher Benefit Services, Inc.

## THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

### EXHIBIT 9 Development of Unfunded Actuarial Accrued Liability

	1/1/11
1. Actuarial Accrued Liability	
(a) Participants receiving benefits	\$ 17,985,482
(b) Terminated vested Participants	1,759,162
(c) Active Participants	48,921,423
(d) Total Participants = (a)+(b)+(c)	\$ 68,666,067
2. Actuarial Value of Assets	57,154,675
3. Balance before adjustments = (1)(d)-(2), not less than zero	\$ 11,511,392
4. Adjustment for cost of living adjustments	0
5. Adjustment for assumption changes	0
6. Unfunded Actuarial Accrued Liability as of January 1, 2011 = (3)+(4)+(5)	\$ 11,511,392

Under the Entry Age Normal actuarial cost method, the Unfunded Actuarial Accrued Liability is redetermined each year. The Actuarial Accrued Liability is valued using participant data, plan provisions and assumptions as of the valuation date. Past demographic or economic experience different than assumed is called an actuarial gain or loss and is reflected in the Unfunded Actuarial Accrued Liability. A breakdown of actuarial gains and losses from the past year is shown on the next page.

The Unfunded Actuarial Accrued Liability is amortized over a fixed period of time. The amortization period was reset at 30 years as of January 1, 2009. Therefore, there are 28 years remaining in the amortization period. The resulting amortization payment is a component of the Annual Required Contribution.

The Unfunded Actuarial Accrued Liability is scheduled to be reduced to \$0 over the amortization period. However, this schedule is met only if all assumptions are met and the actual employer contribution equals the Annual Required Contribution each year. If assumptions are not met, an actuarial gain or loss will either decrease or increase the UAAL. Also, if the employer contribution exceeds the recommended contribution, the UAAL will be reduced more rapidly. Alternatively, if the employer contribution is less than the recommended contribution, the UAAL will reduce more slowly or even increase.

## THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

### EXHIBIT 10 Development of Actuarial (Gain)/Loss

#### Development of Liability (Gain) or Loss

Actual Actuarial Liability as of January 1, 2010		\$ 64,117,376
Expected changes		
▪ Normal cost	\$ 1,965,100	
▪ Interest at 7.5%	4,956,186	
▪ Benefit payments with interest to year end	<u>(2,139,776)</u>	
▪ Total expected changes		\$ 4,781,510
Expected Actuarial Liability as of January 1, 2011		\$ 68,898,886
Actual Actuarial Liability as of January 1, 2011		<u>68,666,067</u>
Actuarial Liability (gain) or loss		<u>\$ (232,819)</u>

#### Breakdown of Actuarial Liability (gain) or loss by source

▪ Participant experience different than assumed for death, retirement, termination, disability and other amounts		\$ 109,492
▪ Inactive mortality		305,723
▪ Salary increases other than expected		(665,173)
▪ New entrants		17,139
▪ Assumption changes		N/A
▪ Cost of living adjustment		N/A
Actuarial Liability (gain) or loss		<u>\$ (232,819)</u>

#### Development of Asset (Gain) or Loss

Market Value of Assets as of January 1, 2010		\$ 50,883,840
▪ Interest at 7.5%		3,816,288
▪ Actual contributions with interest to year-end		2,880,507
▪ Actual benefit payments with interest to year-end		(2,139,776)
▪ Actual expenses with interest to year-end		<u>(245,211)</u>
Expected value of assets as of January 1, 2011		\$ 55,195,648
Actual value of assets as of January 1, 2011		<u>57,154,675</u>
Asset (gain) or loss		<u>\$ (1,959,027)</u>

A (gain)/loss occurs when actual demographic or economic experience is different from the valuation assumptions. For example, if salary increases are greater (lower) than expected the liability will go up (down). During 2010, an actuarial liability gain of \$232,819 and an asset gain of \$1,959,027 resulted in a decrease in UAAL of \$2,191,846 more than expected.



## THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

### EXHIBIT 11 Recommended Amortization Schedule

Year	Unfunded Liability at Beginning of Year	Annual Amortization Payment	Unfunded Liability at End of Year
2011	\$ 11,511,392	\$ 690,360	\$ 11,632,609
2012	11,632,609	711,071	11,740,654
2013	11,740,654	732,403	11,833,869
2014	11,833,869	754,375	11,910,456
2015	11,910,456	777,007	11,968,458
2016	11,968,458	800,317	12,005,752
2017	12,005,752	824,326	12,020,033
2018	12,020,033	849,056	12,008,800
2019	12,008,800	874,528	11,969,343
2020	11,969,343	900,763	11,898,723
2021	11,898,723	927,786	11,793,757
2022	11,793,757	955,620	11,650,997
2023	11,650,997	984,289	11,466,711
2024	11,466,711	1,013,817	11,236,861
2025	11,236,861	1,044,232	10,957,077
2026	10,957,077	1,075,559	10,622,632
2027	10,622,632	1,107,825	10,228,417
2028	10,228,417	1,141,060	9,768,908
2029	9,768,908	1,175,292	9,238,137
2030	9,238,137	1,210,551	8,629,655
2031	8,629,655	1,246,867	7,936,497
2032	7,936,497	1,284,273	7,151,141
2033	7,151,141	1,322,802	6,265,465
2034	6,265,465	1,362,486	5,270,702
2035	5,270,702	1,403,360	4,157,393
2036	4,157,393	1,445,461	2,915,327
2037	2,915,327	1,488,825	1,533,490
2038	1,533,490	1,533,490	0

The Annual Amortization Payment is determined by amortizing the Unfunded Actuarial Accrued Liability (UAAL) over 28 years as a level percentage of total payroll. Total payroll is assumed to increase at 3% per year. Therefore, the UAAL of \$11,511,392 as of January 1, 2011 is scheduled to be fully amortized over a 28-year period with payments increasing from \$690,360 in 2011 by 3% per year.

This schedule is in accordance with Governmental Accounting Standards Board No. 27 guidelines. The City commission has approved that the City contribution will be 10.4% of salary with an additional \$819,791 per year for the five year period beginning January 1, 2005. As of January 1, 2010 the five year period of additional contributions has ended.

The annual City contribution of 10.4% of salary will not be enough to amortize the UAAL over 28 years. Contributions of this amount will amortize the UAAL over about 44 years. Please see Exhibit 13 for more details.

## THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

### EXHIBIT 12 Development of Annual Required Contribution

#### Annual Required Contribution (Dollar Amounts)

	2010	2011
1. Total Normal Cost	\$ 1,965,100	\$ 2,016,014
2. Expected employee contribution	<u>(856,726)</u>	<u>(870,444)</u>
3. City Normal Cost	\$ 1,108,374	\$ 1,145,570
4. Amortization of Unfunded Actuarial Accrued Liability	<u>779,522</u>	<u>690,360</u>
5. Total Annual Required Contribution	\$ 1,887,896	\$ 1,835,930
6. Interest to mid-year at 7.5%	<u>70,796</u>	<u>68,847</u>
7. Recommended contribution, mid-year = (5)+(6)	\$ 1,958,692	\$ 1,904,777

#### Annual Required Contribution (As a Percent of Payroll)

	2010	2011
1. Total Normal Cost	11.5%	11.6%
2. Expected employee contribution	<u>(5.0%)</u>	<u>(5.0%)</u>
3. City Normal Cost	6.5%	6.6%
4. Amortization of Unfunded Actuarial Accrued Liability	<u>4.5%</u>	<u>3.9%</u>
5. Total Annual Required Contribution	11.0%	10.5%
6. Interest to mid-year at 7.5%	<u>0.4%</u>	<u>0.4%</u>
7. Recommended contribution, mid-year = (5)+(6)	11.4%	10.9%

Percent of Payroll results are based on total expected covered payroll of \$17,134,528 in 2010 and \$17,408,878 in 2011. The expected city contribution of 10.4% of covered payroll is less than the 2011 Annual Required Contribution of 10.9%.

## THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

### EXHIBIT 13 10.4% of Payroll Funding Amortization Schedule

Year	Unfunded Liability at Beginning of Year	End of Year Annual Amortization Payment	Unfunded Liability at End of Year
2011	\$ 11,511,392	\$ 612,471	\$ 11,762,275
2012	11,762,275	630,845	12,013,601
2013	12,013,601	649,770	12,264,851
2014	12,264,851	669,264	12,515,451
2015	12,515,451	689,341	12,764,768
2016	12,764,768	710,022	13,012,104
2017	13,012,104	731,322	13,256,690
2018	13,256,690	753,262	13,497,680
2019	13,497,680	775,860	13,734,146
2020	13,734,146	799,136	13,965,071
2021	13,965,071	823,110	14,189,342
2022	14,189,342	847,803	14,405,740
2023	14,405,740	873,237	14,612,933
2024	14,612,933	899,434	14,809,469
2025	14,809,469	926,417	14,993,762
2026	14,993,762	954,210	15,164,084
2027	15,164,084	982,836	15,318,554
2028	15,318,554	1,012,321	15,455,125
2029	15,455,125	1,042,691	15,571,568
2030	15,571,568	1,073,971	15,665,465
2031	15,665,465	1,106,191	15,734,184
2032	15,734,184	1,139,376	15,774,871
2033	15,774,871	1,173,558	15,784,429
2034	15,784,429	1,208,764	15,759,497
2035	15,759,497	1,245,027	15,696,432
2036	15,696,432	1,282,378	15,591,286
2037	15,591,286	1,320,849	15,439,783
2038	15,439,783	1,360,475	15,237,292

The City commission has approved that the City contribution will be 10.4% of salary. The expected contribution for 2011 on this basis is \$1,810,523. The Annual Amortization Payment shown above represents the total expected City contribution available to reduce the UAAL at the end of that year after a reduction for payment of the annual City normal cost.

The above schedule only shows the first 28 years. The UAAL will be fully amortized in about 44 years.





Gallagher Benefit Services, Inc.



## THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

### EXHIBIT 14

#### Statement of Accumulated Plan Benefits

A measure of the degree of progress made in funding any plan is a comparison between the Accumulated Benefit Liability and the assets accumulated to date. The Accumulated Benefit Liability measures the present value of future benefit payments. However, benefit payments are based only on service and salaries earned as of the valuation date. This liability amount is less than the Actuarial Accrued Liability used to determine the Annual Required Contribution, because the AAL anticipates future salary increases for active participants. The liabilities are determined using the regular valuation assumptions. The table below shows the actuarial present value of the Accumulated Benefit Liability.

#### Actuarial Present Value of Accumulated Plan Benefits (PVAB)

	1/1/10	1/1/11
<b>Vested accrued benefits</b>		
▪ Participants currently receiving payments	\$ 17,553,218	\$ 17,985,482
▪ Other Participants	<u>31,465,628</u>	<u>36,104,025</u>
Total vested accrued benefits	\$ 49,018,846	\$ 54,089,507
<b>Non-vested accrued benefits</b>	<u>283,777</u>	<u>209,656</u>
<b>Total accrued benefits</b>	\$ 49,302,623	\$ 54,299,163

#### Statement of Changes in Accumulated Plan Benefits

Beginning value, January 1, 2010	\$	49,302,623
<b>Increases (Decreases)</b>		
▪ Cost of living adjustment	\$	0
▪ Change in actuarial assumptions		0
▪ Benefits accumulated and (gain)/loss		3,437,221
▪ Increase for interest due to decrease in discount period		3,621,754
▪ Benefits paid		<u>(2,062,435)</u>
▪ Net increase (decrease)	\$	4,996,540
Ending Value, January 1, 2011	\$	54,299,163

The ratio of assets to the above liabilities (known as the Funding Ratio) represents the degree to which Accumulated Benefit liability has been funded. As of January 1, 2011, the Market Value of Assets was \$57,154,675. The table below outlines the funding ratios.

Funding Ratio (Assets/PVAB)	
Vested accrued benefits	106%
Total accrued benefits	105%

## THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

### EXHIBIT 1 ASB Statement No. 25

Statement No. 25 requires disclosure of supplementary information in the form of two schedules, the Schedule of Funding Progress and the Schedule of Employer Contributions. The schedules are shown below.

#### Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded Actuarial Accrued Liability (AAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	AAL as a Percentage of Covered Payroll (b - a) / c
1/1/2001	\$ 31,609,400	\$ 31,609,400	\$ 0	100.0%	\$ 10,507,761	0.0%
1/1/2002	31,269,380	34,499,048	3,229,668	90.6%	11,114,003	29.1%
1/1/2003	28,324,967	32,464,523	4,139,556	87.2%	11,806,729	35.1%
1/1/2004	34,646,791	39,088,399	4,441,608	88.6%	12,441,844	35.7%
1/1/2005	37,922,220	42,856,344	4,934,124	88.5%	12,765,077	38.7%
1/1/2006	42,836,388	48,871,708	6,035,320	87.7%	13,106,843	46.0%
1/1/2007	49,153,640	50,825,581	1,671,941	96.7%	13,892,759	12.0%
1/1/2008	54,224,695	55,307,884	1,083,189	98.0%	14,901,848	7.3%
1/1/2009	43,690,842	59,315,384	15,624,542	73.7%	15,932,987	98.1%
1/1/2010	50,883,840	64,117,376	13,233,536	79.4%	17,134,528	77.2%
1/1/2011	57,154,675	68,666,067	11,511,392	83.2%	17,408,878	66.1%

#### Schedule of Employer Contributions

Year Ended	Annual Required Contribution (a)	Employer Contribution (b)	Percentage Contributed (b / a)
12/31/2001	\$ 423,579	\$ 371,374	87.7%
12/31/2002	746,951	449,657	60.2%
12/31/2003	1,531,586	906,670	59.2%
12/31/2004	1,267,143	1,678,601	132.5%
12/31/2005	1,414,021	2,113,743	149.5%
12/31/2006	1,233,248	2,147,360	174.1%
12/31/2007	1,068,130	2,182,902	204.4%
12/31/2008	1,090,182	2,542,707	233.2%
12/31/2009	2,010,653	2,649,359	131.8%
12/31/2010	1,958,692	1,862,086	95.1%
12/31/2011	1,904,777	□	□

## THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

### EXHIBIT 1 ASB Statement No. 27

The ASB Statement No. 27 annual pension expense is defined as the Annual Required Contribution (ARC) plus one year's interest on the Net Pension Obligation (NPO) offset by an adjustment to the Annual Required Contribution (ARC). The NPO is defined as the cumulative difference, including interest, for the years prior to the transition date between (a) the employer's required contributions in accordance with the plan's actuarially determined funding requirements and (b) the contributions made by the employer in relation to the required contributions. The adjustment to the Annual Required Contribution is necessary to amortize past contribution deficiencies or excess contributions of the employer.

	2010 Plan Year	2011 Plan Year
Annual Required Contribution (ARC)	\$ 1,887,896	\$ 1,835,930
Interest on Net Pension Obligation (asset)	(349,050)	(352,732)
Adjustment to Annual Required Contribution □ Beginning of year NPO amortized as a level percent of pay over a closed 30 year period beginning 1/1/2009 <sup>1</sup>	<u>274,144</u>	<u>282,054</u>
Annual Pension Cost	\$ 1,812,990	\$ 1,765,252
Contributions Made	<u>1,862,086</u>	<u>□</u>
Increase (decrease) in Net Pension Obligation (asset)	\$ (49,096)	\$ □
Net Pension Obligation (asset) beginning of year	<u>(4,653,999)</u>	<u>(4,703,095)</u>
Net Pension Obligation (asset) end of year	\$ (4,703,095)	\$ □

<sup>1</sup> The 2010 Amortization Factor is 16.98. The 2011 Amortization Factor is 16.67.

□ To be determined at end of year.

The Net Pension Obligation at transition (January 1, 2007) is the cumulative difference, including interest, between (a) the employer's required contributions in accordance with the plan's actuarially determined funding requirements and (b) the contributions made by the employer in relation to the required contributions. The cumulative difference was based on plan records dating back to January 1, 2001. Since the unfunded Actuarial Accrued Liability as of that date was \$0, all actuarially determined required contributions prior to that date are assumed to have been made.