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This report summarizes valuation results for the Township of Bloomfield Retirement Income Plan based upon actuarial valuations as of January 1, 2010 and January 1, 2011.

## Contributions

| - Recommended Employer Contribution | $\$ 6,307,059$ | $\$ 5,512,710$ |
| :--- | :---: | :---: |
| Expressed as a percentage of payroll | $40.50 \%$ | $35.51 \%$ |
| - Estimated Employee Contribution | $\$ 372,676$ | $\$ 370,620$ |

## Pension Plan Asset Information

- Market Value of Assets
- Actuarial Value of Assets


## Liability Information

- Present Value of Projected Benefits
- Present Value of Accrued Benefits
- Projected Unit Credit Liability


## Participant Information

- Active Participant Lifecount
- Total Participant Lifecount
- Total Covered Payroll
\$108,305,929
\$118,216,018
\$115,269,769
\$119,693,077
\$176,255,242
\$178,137,327
\$136,577,300
\$139,072,818
\$146,532,941
\$148,403,066

225

475
\$15,562,765

223

475
\$15,522,940

## Pension Plan

No changes to the plan have been made since the $1 / 1 / 2010$ valuation.

## Actuarial Assumptions

The expense assumption has changed from a $2 \%$ load of liabilities to a flat dollar load to the Normal Cost of $\$ 30,000$.

## Gain/Loss

Actuarial gains and losses are recognized with each valuation by routine application of the Actuarial Cost Method. Under your cost method, actuarial gains and losses are recognized with each valuation and amortized over 20 years.

## Funding Method

The funding method has changed from the Aggregate Actuarial Cost Method to the Projected Unit Credit Level Dollar Funding Method using a 20-year amortization period.

## Demographics

Total participant lifecount remained the same when compared with last year. Within the total group, active lifecount decreased $1 \%$.

This report relies on the census data submitted to us by the plan sponsor, as summarized in "Participant Data", and the retirement plan as outlined in "Plan Provisions". It also relies on the plan asset information as described in "Statement of Net Assets Available for Benefits". Appropriate tests for consistency and reasonableness have been completed on the information relied on.

The liabilities and costs were determined using the method summarized in "Actuarial Cost Method" and the actuarial assumptions described in "Plan Assumptions". In our opinion, the actuarial assumptions used in this report are reasonable and reflect our best estimate of the anticipated future experience under the plan.

I am the Enrolled Actuary for this plan, and have no other relationship with the plan or the plan sponsor, which may impair or appear to impair the objectivity of my work.

This report was completed in accordance with generally accepted actuarial standards and procedures, and conforms to the Guidelines for Professional Conduct of the American Academy of Actuaries. The undersigned credentialed actuary meets the qualification standards of the American Academy of Actuaries necessary to render the actuarial opinion contained herein.


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1. Market Value of Assets:

| Description | January 1, 2010 | January 1, 2011 |
| :--- | ---: | ---: |
| George J. Schwartz \& Co., Inc. |  |  |
| Total Market Value | $12,372,943$ | $9,110,253$ |

2. Guaranteed Account (GA)

January 1, 2010
January 1, 2011
a. Value as of Valuation Date
\$95,932,985
\$109,105,765
b. Receivables
i. Investment Income

0
ii. Employer Contributions

0
c. Payables
d. Total Guaranteed Account

$$
\text { 3(a) }+3(\mathrm{~b})+3(\mathrm{c}) \quad \$ 95,932,985
$$

\$109,105,765
4. Total Market Value of Assets
\$108,305,929
\$118,216,018
5. Total Actuarial Value of Assets
\$115,269,769
\$119,693,077
6. Rate of Return on Market Value of Assets during the preceding twelve month period
8.67\%
10.81\%

## Contributions for the Preceding Plan Year

| Date | Employee <br> Contributions | Employer <br> Contributions |
| :--- | ---: | ---: |
| August, 2009 | $\$ 0.00$ | $\mathbf{2 , 5 0 0 , 0 0 0}$ |
| December, 2009 | 0.00 | $2,600,000$ |
| January, 2010 | $41,812.90$ |  |
| February, 2010 | $27,789.48$ |  |
| March, 2010 | $55,476.21$ |  |
| April, 2010 | 0.00 |  |
| May, 2010 | $27,628.98$ |  |
| June, 2010 | $27,509.38$ |  |
| July, 2010 | $41,156.17$ |  |
| August, 2010 | $27,415.93$ |  |
| September, 2010 | $27,124.10$ |  |
| October, 2010 | $27,510.49$ |  |
| November, 2010 | $69,287.46$ |  |
| December, 2010 | $\underline{0.00}$ |  |
| Totals | $\mathbf{\$ 3 7 2 , 7 1 1 . 1 0}$ | $\mathbf{\$ 5 , 8 9 4 , 5 9 5}$ |

## Lifecount and Data Reconciliation:

| Description | Actives | Vested <br> Terms | Inactives | Disableds | Retireds | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Participants on |  |  |  |  |  |  |
| January 1, 2010 | 225 | 9 | 2 | 0 | 239 | 475 |
| New Participants | 3 | 0 | 0 | 0 | 1 | 4 |
| Transfers in Status | 0 | 0 | 0 | 0 | 0 | 0 |
| Vested Term | 0 | 0 | 0 | 0 | N/A | 0 |
| Non-vested Term | 0 | 0 | 0 | 0 | N/A | 0 |
| Inactive | (1) | 0 | 1 | 0 | 0 | 0 |
| Disabled | 0 | 0 | 0 | 0 | 0 | 0 |
| Retired | (3) | 0 | 0 | 0 | 3 | 0 |
| Cash Out | (1) | (1) | 0 | 0 | 0 | (2) |
| Death | 0 | 0 | 0 | 0 | (2) | (2) |
| Expired Payments | N/A | N/A | N/A | 0 | 0 | 0 |
| Data Correction | 0 | 0 | 0 | 0 | 0 | 0 |
| Participants on | 23 | 8 | 3 | 0 | 241 | 475 |

AVERAGE AGES for active eligible lives

| Average attained age | 42.69 | 43.43 |
| :--- | ---: | ---: |
| Average service | 13.16 | 14.02 |
|  | $\$ 15,562,765$ | $\$ 15,522,940$ |
| AYROLL for active eligible lives | $\$ 69,168$ | $\$ 69,610$ |
| Average annual earnings |  |  |
|  |  | 67.11 |
| ETIRED PARTICIPANTS | 67.32 | $\$ 32,638$ |

Present Value of Projected Plan Benefits: (at 7.0\% for the preceding year and 7.0\% for the current year)

Actives
Retirement Benefits
Withdrawal
Pre-retirement Spouse
Disability
Other
Subtotal for Actives
Inactives
Retired Lives
Vested Terminated Participants
Disabled
Inactive Lives
Subtotal for Inactives
Total Present Value of Benefits

January 1, 2010
76,401,043
1,018,050
1,327,185
3,160,830
33,319
\$81,940,427
\$93,143,997
1,170,818
0
$\underline{0}$
\$94,314,815
\$176,255,242

January 1, 2011
80,462,224
960,618
1,338,264
3,155,304
29,247
\$85,945,657
\$91,022,248
1,169,422
0
\$ $\frac{0}{191,670}$
\$92,191,670
\$178,137,327

Present Value of Actuarial Accrued Liabilities: (at 7.0\% for the preceding and current years)

Actives
January 1, 2010
January 1, 2011

Retirement Benefits
Withdrawal
Pre-retirement Spouse
Disability
Other
Subtotal for Actives
$38,570,466$
591,457
715,348
$2,359,322$
25,891
$\$ 42,262,484$

51,758,758
643,328
864,945
2,921,763
22,602
\$56,211,396
Inactives
Retired Lives
\$93,143,997
\$91,022,248
Vested Terminated Participants
Disabled
1,170,818
1,169,422
Inactive Lives
0
Subtotal for Inactives
\$94,314,815
\$136,577,299
\$148,403,066

## Determination of Normal Cost as of January 1, 2010

January 1, 2010

1. Present Value of Future Benefits ..... \$176,255,242
2. Actuarial Value of Pension Fund Assets ..... \$115,269,769
3. Present Value of Future ..... \$3,179,995 Employee Contributions
4. Present Value of Future ..... 57,805,478
Employer Normal Costs (1-2-3)
5. Present Value of Future Salaries ..... \$146,884, 237
6. Total Current Salaries ..... \$14,977,845
(Employees under assumed retirement age)
7. Employer Normal Costs ..... \$5,894,448
(4/(5/6))
PENSION CONTRIBUTION FOR THE PLAN YEAR BEGINNING JANUARY 1, 2010
Normal Cost ..... \$5,894,448
Interest to the end of the Plan Year ..... \$412,611
Total Recommended Employer ..... \$6,307,059Contribution at end of year

## Determination of Unfunded Liability Amortization for the plan year beginning January 1, 2011

1. Projected Unit Credit Liability
\$148,403,066
2. Actuarial Value of Pension Fund Assets
\$119,693,077
3. Unfunded Liability (1-2) \$28,709,989
4. Interest Rate 7.00\%
5. Amortization Period

20 Years
6. Amortization of Unfunded Actuarial Accrued Liability
(level dollar amortization)

PENSION CONTRIBUTION FOR THE PLAN YEAR BEGINNING JANUARY 1, 2011

1. Employer Normal Cost
Net of Employee Contributions
2. Amortization of Unfunded Actuarial Accrued Liability
(level dollar amortization)
3. Expenses $\quad \$ 30,000$
$\begin{aligned} & \text { 4. Recommended Employer Contribution at } \\ & \text { beginning of year }(1+2+3)\end{aligned} \quad \$ 5,152,066$
4. Interest to the end of the Plan Year $\underline{\$ 360,645}$
5. Total Recommended Employer \$5,512,710

Contribution at end of year (4+5)

The following percentages may be used to allocate contributions to each division. These percentages are based on the ratio of the liabilities for employees of each division to the liabilities for all divisions.

## Division

000 Administration \& Miscellaneous
001 Library
002 Fire Department - Bargaining Unit Members
003 Police Department - Civilian
004 Police Department - Command Officer
005 Police Department - Bargaining Unit
006 Village Police
007 Fire Department - Command Officers

Percentage
32.61\%
3.28\%
15.03\%
7.70\%
11.43\%
16.45\%
0.23\%
13.27\%

## I. ACTUARIAL COST METHOD

Costs have been computed in accordance with the Projected Unit Credit Level Dollar Funding Method using a 20-year amortization period and reflect the actuarial assumptions described in "Plan Assumptions" of this report.

## NORMAL COST

The Normal Cost is the cost of benefits expected to accrue during the coming year for all Participants who are eligible for funding as of the valuation date.

## ACTUARIAL ACCRUED LIABILITY

As of January 1, 2011, an Actuarial Accrued Liability is established which represents the value of accrued benefits. This Actuarial Accrued Liability is offset by assets, if any, and the remainder, the Unfunded Actuarial Accrued Liability, is amortized over a fixed number of years from the effective date.

Subsequent changes due to plan amendment or revised actuarial assumptions create increments of Actuarial Accrued Liability which will be amortized over a similar fixed period of years from their effective dates. Actuarial gains and losses will be recognized with each valuation and amortized over a 20-year period.

## II. ASSET VALUATION METHOD

Assets have been valued in accordance with generally accepted procedures as described below.

All funds invested are valued in the following manner:
Definitions
i assumed growth rate, set equal to the expected return on assets
$\mathrm{C}(\mathrm{t})$ sum of contributions and other additions to the fund from all sources other than investment transactions in Plan Year t
$\mathrm{W}(\mathrm{t}) \quad$ sum of all withdrawals and other decreases to the fund from all sources other than investment transactions in Plan Year t
$\mathrm{AV}(\mathrm{t}) \quad$ Actuarial Value of Assets as of Plan Year t
$\operatorname{MV}(\mathrm{t}) \quad$ Market Value of Assets as of Plan Year t
EV(t) Expected Value of Assets as of Plan Year t
G/L(t) Gain or Loss for Plan Year t
Method
Deferred Recognition Method, with no gain or loss recognition prior to January 1, 2002.
On January 1, 2002, let $\mathrm{AV}(\mathrm{t})=\mathrm{MV}(\mathrm{t})$. For subsequent years, $\mathrm{AV}(\mathrm{t})$ is determined as follows:
$\mathrm{EV}(\mathrm{t})=\mathrm{MV}(\mathrm{t}-1) *(1+\mathrm{i})+[\mathrm{C}(\mathrm{t}-1)-\mathrm{W}(\mathrm{t}-1)] *(1+\mathrm{i} * \mathrm{~m})$
where m represents a proportionate yield consistent with the portion of the year for which C and W are invested.
$\mathrm{G} / \mathrm{L}(\mathrm{t}-1)=\mathrm{EV}(\mathrm{t})-\mathrm{MV}(\mathrm{t})$
$\mathrm{AV}(\mathrm{t})=\mathrm{MV}(\mathrm{t})+4 / 5 * \mathrm{G} / \mathrm{L}(\mathrm{t}-1)+3 / 5 * \mathrm{G} / \mathrm{L}(\mathrm{t}-2)+2 / 5 * \mathrm{G} / \mathrm{L}(\mathrm{t}-3)+1 / 5 * \mathrm{G} / \mathrm{L}(\mathrm{t}-4)$
Corridor Limits
The resulting Actuarial Value of Assets may not be less than $80 \%$ or more than $120 \%$ of the current market value of plan assets as of the applicable valuation date [ as required by IRC Section 1.412(c)(2)(1) ].

## Determination of Actuarial Value

Market Value of Assets on 01/01/2011:
\$ 118,216,018

| Plan Year | (Gain)/Loss | \% Deferred |
| :---: | :---: | :---: |
| 2010 | \$ 3,934,275 | 80.00\% |
| 2009 | \$ 1,011,631 | 60.00\% |
| 2008 | \$ $(12,209,207)$ | 40.00\% |
| 2007 | \$ (1,738,874) | 20.00\% |

Market Value plus Deferred Recognition:
\$ 119,693,077
Corridor for Actuarial Value
80\% of Market Value: $\quad \$ 94,572,815$
120\% of Market Value: \$141,859,222
Actuarial Value after Corridor:
\$ 119,693,077

Assumptions have been chosen to anticipate the long-range experience of the Plan. Consistency among assumptions is important as each interacts with the others; equally important is the recognition of inflationary trends in the economy.

The actuarial assumptions used to compute Plan costs are:

Mortality:
Termination:

## Retirement Age:

Investment Return:
Estimated Expenses:

Annual Cost of Living
Adjustment:

The RP-2000 Mortality Table projected to 2010.
50\% of Prudential Scale 1/2A
The probabilities that Participants at the ages indicated will terminate before reaching the assumed retirement age are:

| Age | Male | Female |
| :--- | ---: | ---: |
|  |  |  |
| 20 | $28.5 \%$ | $35.8 \%$ |
| 25 | $22.4 \%$ | $29.7 \%$ |
| 30 | $15.0 \%$ | $20.9 \%$ |
| 35 | $8.6 \%$ | $13.2 \%$ |
| 40 | $4.0 \%$ | $6.5 \%$ |
| 45 | $1.1 \%$ | $1.9 \%$ |
| 50 \& Over | $0.0 \%$ | $0.0 \%$ |

Age 55 with 25 years of Service or Age 62. Participants at or beyond this age are assumed to retire immediately. Non-active, non-retired participants are assumed to retire at Normal Retirement Age.
7.0\% per annum.
\$30,000 per annum.

All retirees and participants eligible to retire immediately receive a $1 \%$ annual cost of living adjustment for life.

## Salary Scale:

## Spouse's Benefit:

## Disability:

Maximum Benefit and Maximum Compensation Limits:

Salaries are assumed to increase at an annual rate of 3.0\%.
The salary at age 55 bears the following relationship to the current earnings of a Participant at the indicated age, except that for Participants with a later normal or assumed retirement date, salaries are assumed to increase to that date.

| Age | Ratio |
| :--- | :--- |
|  |  |
| 20 \& under | 2.81 |
| 25 | 2.43 |
| 30 | 2.09 |
| 35 | 1.81 |
| 40 | 1.56 |
| 45 | 1.34 |
| 50 | 1.16 |
| 55 | 1.00 |

It is assumed that husbands are 3 years older than wives and that $80 \%$ of Participants who are or will become eligible for coverage under the Spouse's Benefit will be survived by an eligible spouse.

Table C-4 of the Society of Actuaries Transactions Volume XXXIX, $100 \%$ of the 6 -month rates. The probabilities the Participants at the ages indicated will terminate within the next year are:

| Age | Male | Female |
| :---: | :---: | :---: |
|  |  |  |
| 20 | $0.080 \%$ | $0.100 \%$ |
| 25 | $0.085 \%$ | $0.110 \%$ |
| 30 | $0.099 \%$ | $0.140 \%$ |
| 35 | $0.124 \%$ | $0.201 \%$ |
| 40 | $0.176 \%$ | $0.276 \%$ |
| 45 | $0.294 \%$ | $0.400 \%$ |
| 50 | $0.540 \%$ | $0.622 \%$ |
| 55 | $0.977 \%$ | $0.932 \%$ |
| 60 | $1.477 \%$ | $1.179 \%$ |
| 62 | $1.671 \%$ | $1.253 \%$ |

Assumed to increase 3\% per year.

## Rate of Earnings:

## Final Earnings:

## Service:

## Credited Service:

Form of Annuity:

Normal Retirement Date:

Basic compensation including longevity adjustments but excluding overtime, commissions, bonuses and any other additional compensation.

Divisions 000, 003 and 004:

Average Rate of Earnings as of the highest three consecutive May 1's during the last 10 years before Retirement Date. If Service ceases more than three years before Retirement Date, Final Earnings is average Rate of Earnings as of the last three May 1's before Service ceases.

Divisions 002, 005 and 007:

Average Rate of Earnings as of the highest three May 1's.
Divisions 001 and 006:

Average Rate of Earnings as of the highest five consecutive May 1's during the last 10 years before Retirement Date. If Service ceases more than five years before Retirement Date, Final Earnings is the average Rate of Earnings as of the last five May 1's before Service ceases.

All years of Service with the Employer from date of employment to the earlier of retirement, termination of employment or death (without regard to hours worked).

All years of Service with the Employer from date of employment to the earlier of retirement, termination of employment or death, counted in whole years and full months. Service prior to August 1, 1961 is excluded if the Employee was not a plan Participant at that time. Service while the Participant was eligible to make contributions but did not is also excluded. Service while the Participant is disabled is excluded.

Modified Cash Refund with a 50\% Spouse Continuation. Participants who are not married receive an actuarially increased benefit.

Divisions 000 and 003:

The first day of the month coinciding with or next following the Participant's $52^{\text {nd }}$ birthday and the completion of 8 years of Service, or the completion of 30 years of Service.

Division 001:
The first day of the month coinciding with or next following the Participant's $55^{\text {th }}$ birthday and the completion of 8 Years of Service.

Division 002 and 007:

The first day of the month coinciding with or next following the Participant's $52^{\text {nd }}$ birthday and the completion of 8 Years of Service.

Division 004 and 005:
The first day of the month coinciding with or next following the Participant's $50^{\text {th }}$ birthday and the completion of 25 years of service or the Participant's $52^{\text {nd }}$ birthday and the completion of 10 years of Service, if later.

Division 006:
The first day of the month coinciding with or next following the earlier of (a) the Participant's $55^{\text {th }}$ birthday and the completion of 10 years of Service or (b) the Participant's $60^{\text {th }}$ birthday and the completion of 8 years of Service.

A Participant who continues in employment after reaching Normal Retirement is considered to be in postponed Retirement status.

Normal Retirement:

Benefit Formula: Divisions 001 and 006:
2.1\% of Final Earnings multiplied by years of Credited Service.

Divisions 002 and 007:
2.75\% of Final Earnings multiplied by years of Credited Service.

Divisions 000, 003:
2.85\% of Final Earnings multiplied by years of Credited Service.

Divisions 004, 005:
3.00\% of Final Earnings multiplied by years of Credited Service.

Divisions 000 and 003:
On and after June 1, 2005, the maximum benefit at retirement shall not exceed $90 \%$ of Final Earnings for any Participant with 36 or fewer Years of Credited Service on April 1, 1996.

Division 002:

On and after July 8, 1996, the maximum benefit at retirement shall not exceed $80 \%$ of Final Earnings.

Division 004:
On and after April 27, 2000, the maximum benefit at retirement shall not exceed 90\% of Final Earnings.

Division 005:
On and after April 1, 1999, the maximum benefit at retirement shall not exceed $85 \%$ of Final Earnings.

Division 007:

On and after December 18, 1996, the maximum benefit at retirement shall not exceed $80 \%$ of Final Earnings.

Division 000 - Retirement Date on or before March 31, 2009
Division 001 - Retirement Date on or before March 31, 2009
Division 002 - Retirement Date on or before December 31, 2007
Division 003 - Retirement Date on or before March 31, 2009
Division 004 - Retirement Date on or before March 31, 2009
Division 005 - Retirement Date on or before March 31, 2009
Division 006 - Retirement Date on or before March 31, 2009
Division 007 - Retirement Date on or before December 31, 2007

## Early Retirement :

Eligibility:
Benefit Formula: Normal retirement benefit accrued to early retirement, reduced by .5\% for each month Annuity Commencement Date precedes Normal Retirement Date.

Vesting:

Eligibility:
Divisions 000, 001, 002, 003, 006 and 007
Eight years of Service or attainment of Normal Retirement Date equals 100\% vesting.

Divisions 004 and 005:

Ten years of Service or attainment of Normal Retirement Age equals $100 \%$ vesting.

Benefit Formula: Benefit accrued to date of termination adjusted by the appropriate vesting percentage.

## SUPPLEMENTAL BENEFITS:

Preretirement Death Benefit:

Eligibility:
Benefit Formula:

Preretirement Spouse
Benefit:
Eligibility:
Benefit Formula:

Disability Benefit:

## Eligibility:

Benefit Formula:

Divisions 000, 002, 003, 004, 005 and 007:

Active Employee who is eligible for vesting
$50 \%$ of the pension benefit accrued to date of death. If eligible for early retirement at time of death, $100 \%$ of the pension benefit accrued to date of death.

Divisions 001 and 006
Active employee eligible for early retirement and married
$50 \%$ of the pension benefit accrued to date of death. If eligible for early retirement at time of death, $100 \%$ of the pension benefit accrued to date of death.

Only applies to Divisions 002, 004, 005 and 007.
Participants are eligible immediately.

- Duty Disability
2.75\% (3.0\% for Divisions 004 \& 005) of Final Earnings equal to the rate of earnings immediately prior to disablement adjusted by increases negotiated for job classification between date of disablement and the earlier of the date the Participant is no longer disabled, or the Normal Retirement Date, multiplied by years of Credited Service. Credited Service is defined from employment date to the earlier of the date the Participant is no longer considered disabled or Normal Retirement Date. Final Earnings equals the Rate of Earnings immediately prior to disablement adjusted by increases negotiated for that job classification between the date of disablement and the earlier of the date the Participant is no longer disabled or Normal Retirement Date.
- Non-Duty Disability
2.75\% (3.0\% for Divisions 004 \& 005) of Final Earnings multiplied by years of Credited Service. Final Earnings and Credited Service are as of date of disablement.


## EMPLOYEE

## CONTRIBUTIONS

| Amount: | Divisions 002 and 007: 1\% of earnings <br> Divisions 004 and 005: 3.5\% of earnings <br> Divisions 000 and 003: 2\% of earnings <br> Divisions 001 and 006: 5\% of earnings |
| :--- | :--- |
| Interest Credits: | $5 \%$ per annum |

Death or Termination
Refund:

Preretirement: Refund of Employee Contributions with interest to date of termination or date of death

Postretirement: $\quad$ Refund of Employee Contributions with interest over annuity payments made, unless the form of annuity elected is other than the normal form of annuity.

