



**DUPAGE
COUNTY**

Wastewater

Water

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PUBLIC WORKS DEPARTMENT

630-407-6800
Fax: 630-407-6701
publicworks@ec.dupageco.org

www.dupageco.org/publicworks

September 18, 2015

RE: White Pines Water Improvement Project
DuPage County Service Options

Dear White Pines Resident:

The White Pines Civic Association officially requested that DuPage County provide several alternatives for water service within the White Pines Subdivision. A copy of this September 5th letter has been attached for your reference. In response to this request, the Public Works Department prepared several option evaluations for the resident's consideration. A copy of our option analysis has also been included with this letter.

Our department was able to provide preliminary estimates for two of the requested water service alternatives. In both of these options, DuPage County would fully replace the water lines within the subdivision and would be the water service provider. The main difference between the two options presented is that with Option 1 the county would purchase the water from Bensenville while in Option 3 the county would purchase the water directly from the Water Commission.

It should be noted that both options being presented are maximum cap numbers. As stated within the letter to the White Pines Civic Association, both of the DuPage County service options are more expensive than the Village of Bensenville service alternative. This is due primarily to the fact that if the residents select DuPage County as the service provider, the project will be delayed several years as the financing, permits and required intergovernmental agreements are secured.

Should the residents of White Pines wish to pursue one of the listed DuPage County options, a petition will be required to be signed from a clear majority of the homeowners within the subdivision requesting that the County move forward with a specific option. If residents are interested in pursuing a petition, the county would request that we assist in the development of the wording for the petition. It will be necessary that the petition include the costs and conditions of a specific option. Once the petition is submitted, it will then be presented to the Public Works Committee and County Board for consideration of project approval.

Please contact this office at (630) 407-6800 if you have any questions.

Respectfully,

Nicholas W. Kottmeyer, P.E.
Director of Public Works and Operations



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September 18, 2015

Gina Mellenthin, President
White Pines Civic Association
4N150 Pine Grove
Bensenville, IL 60106

RE: DuPage County Water Service Option
White Pines Subdivision

Dear Ms. Mellenthin:

I am in receipt of your September 5th letter officially requesting three distinct DuPage County water service options for consideration by the residents of White Pines Subdivision. The requested service options were as follows (directly quoted from your letter):

Option 1 – A straight “apples to apples” proposal with DuPage taking over the system after full replacement of all water lines and purchasing water from one of our bordering municipalities.

This option includes complete replacement of all lines within the White Pines Subdivision by DuPage County with the water being supplied by the Village of Bensenville to DuPage County.

Option 2 – DuPage takes over the system, replaces, relines, directionally bores or a combination of all water lines and purchases water from one of our bordering municipalities.

This option was not analyzed as it is not possible to determine the viability of rehabilitation of pipes prior to final design.

Option 3 – DuPage takes over the system, constructs a ground level tank and pumping station, replaces, relines, directionally bores or a combination of all water lines and purchases water from the Water Commission for our use.

This option includes the complete replacement of all lines within the White Pines Subdivision by DuPage County, construction of a water tower and metering station. The water will be supplied to DuPage County directly from the Water Commission.

The following summarizes our preliminary findings and cost estimates for each of the requested options.

Option 1

The County assumed identical replacement of pipes as shown by Bensenville. This option was completed in order to show a direct comparison to the Village of Bensenville construction estimate for the watermain replacement project in the White Pines Subdivision. A detailed preliminary cost estimate has been attached for consideration. The following summarizes our estimates and key considerations for the residents of White Pines.

- Pipes will be replaced within the White Pines Subdivision as outlined by the Village of Bensenville option.
- The total DuPage County cost estimate for this option was determined to be \$7,388,062. After factoring in the \$900,000 contribution from the Bensenville Unincorporated Utility Fund, the total cost to the residents of White Pines would be approximately \$6.5 Million.
- It should be noted that approximately \$400,000 of this estimate is related to the estimated 3-year delay in construction that would be required for implementation of this option. This delay is due mainly to the fact that the County would have to initiate the loan process from the beginning with the EPA.
- Assuming that the County can be approved for the low-interest loan from the Illinois Environmental Protection Agency, a 3.00% interest rate will be incorporated into the cost estimates due to the three year delay in the project. This is higher than the currently projected 2.21% interest rate quoted by the Village of Bensenville. The interest rate fluctuates on a yearly basis and has been on an upward trend over the past several years.
- A total project cost of \$6,488,062, with a 3.00% interest rate for a 20-year loan, would result in a total loan payment (principal plus interest) of \$8,722,000. Considering the 262 homes currently connected to the water service, this would result in a yearly total obligation for the 262 homes of \$436,100. Each home would be responsible for a payment of \$1,664 for the next 20 years, or \$138.71 per month for the loan repayment (\$277.42 bi-monthly).
- Residents of White Pines should be aware that this option requires that the County purchase water from a local provider. The County anticipates that Bensenville would likely be the only feasible local provider of the Lake Michigan Water. Obtaining water from other providers would likely add considerable expense to the total project cost, as infrastructure would need to be extended into the subdivision to supply the water. This issue will be further examined during final design.
- If an agreement can be negotiated between Bensenville and DuPage County for the supply of water, it would be anticipated that Bensenville would charge a mark-up for the Lake Michigan water delivered through their system to the new DuPage County water system. At this time, a mark-up of \$2.50 per 1,000 gallons was assumed to be charged by the Village of Bensenville. This constitutes approximately a 50% mark-up from the raw Lake Michigan water rates now being charged by the DuPage Water Commission.
- The estimated DuPage County water bill incorporating the completion of Option #1 has been prepared and shown below. It should be understood that the value shown represents a bi-monthly water charge amount as the County bills customers every two months. All rates shown are current DuPage County rates and are subject to change. The Village of Bensenville will still own, operate and bill for sanitary sewer service within the White Pines Subdivision. The sanitary sewer charge is not included in the chart below.

OPTION #1 - Anticipated DuPage Water Bill (utilizing current rates)	
NOTE: DuPage County Bills Bi-Monthly	
Usage calculated at 4,500 gallons per month (9,000 gallons bi-monthly)	
Water Consumption (2-month period)	9,000 gallons
Base Charge Per Bill (flat charge per bill)	\$ 5.78
Water Usage Charge (\$9.40 per 1,000 gallons)	\$ 84.60
Capital Buy-In Fee Charge (\$0.73 per 1,000 gallons)	\$ 6.57
Village of Bensenville Provider Mark-Up (assumed to be \$2.50 per 1,000 gallons of water)	\$ 22.50
White Pines Water System Improvements (\$1,664 per year divided equally over 6 billing cycles)	\$ 277.42
TOTAL ESTIMATED BI-MONTHLY WATER BILL	\$ 396.87

Option 2

The White Pines Civic Association requested that the County examine an option that incorporates a combination of system replacement, relining and directional boring of all water lines within the subdivision as well as the purchase of water from one of the bordering municipalities. The County was not able to complete this option analysis as it requires in-depth analysis of the condition of the existing water system. This level of value engineering typically occurs during the final design phase of a project when detailed condition assessments can be completed.

It should be understood that the County will not allow rear-yard watermain to remain in place. All watermain located within the rear-yard easements will be required to be reconstructed in front of the houses in the right-of-way of the streets. Existing pipes within the road right-of-way would be assessed during the design phase of the project for overall condition, pipe integrity, pipe type and conveyance capacity. Options including relining would then be considered if the pipe is deemed to be in acceptable condition.

Residents should not assume that the relining of pipes will be a feasible alternative that will reduce the overall project expenses when deciding on an acceptable project approach. It should be noted that the potential rehabilitation of watermain within the subdivision would only apply to a portion of the watermain within the subdivision. Therefore, the fiscal impact of this option would not be expected to be substantial.

Option 3

The White Pines Civic Association requested that the County also examine an option that includes taking over the water system, construction of a ground level tank and pumping station, replacement or relining of the same pipes as shown by Bensenville. A detailed preliminary cost estimate has been attached for consideration. The following summarizes our estimates and key considerations for the residents of White Pines.

- As detailed in Option #1, the County has assumed the full replacement of all watermain within the White Pines Subdivision for a comparison to the Village of Bensenville option. Consideration of relining alternatives would occur during the final design phase of the project.

- A ground level tank was requested for this alternative by the White Pines Civic Association. Until very detailed system modeling, site selection, topographic survey and system demands are determined during final design, a standard elevated storage tank was assumed.
- The total DuPage County cost estimate for this option was determined to be \$10,862,555. After factoring in the \$900,000 contribution from the Bensenville Unincorporated Utility Fund, the total cost to the residents of White Pines would be approximately \$10 Million.
- It should be noted that approximately \$760,000 of this estimate is related to the estimated 4-year delay in construction that would be required for implementation of this option. This delay is due mainly to the fact that the County would have to initiate the loan process from the beginning with the EPA. In addition, this option requires a lengthy process from the Illinois Department of Natural Resources to receive Lake Michigan allocation rights.
- Assuming that the County can be approved for the low-interest loan from the Illinois Environmental Protection Agency, a 3.25% interest rate will be incorporated into the cost estimates due to the four year delay in the project. This is higher than the currently projected 2.21% interest rate quoted by the Village of Bensenville. The interest rate fluctuates on a yearly basis and has been on an upward trend over the past several years.
- A total project cost of \$9,962,555, with a 3.25% interest rate for a 20-year loan, would result in a total loan payment (principal plus interest) of \$13,755,777. Considering the 262 homes currently connected to the water service, this would result in a yearly total obligation for the 262 homes of \$687,789. Each home would be responsible for a payment of \$2,625 for the next 20 years, or \$219 per month for the loan repayment (\$438 bi-monthly).
- Option #3 allows the County to purchase Lake Michigan water directly from the DuPage Water Commission.
- The estimated DuPage County water bill incorporating the completion of Option #3 has been prepared and shown below. It should be understood that the value shown represents a bi-monthly water charge amount as the County bills customers every two months. All rates shown are current DuPage County rates and are subject to change. The Village of Bensenville will still own, operate and bill for sanitary sewer service within the White Pines Subdivision. The sanitary sewer charge is not included in the chart below.

OPTION #3 - Anticipated DuPage Water Bill (utilizing current rates)	
NOTE: DuPage County Bills Bi-Monthly	
Usage calculated at 4,500 gallons per month (9,000 gallons bi-monthly)	
Water Consumption (2-month period)	9,000 gallons
Base Charge Per Bill (flat charge per bill)	\$ 5.78
Water Usage Charge (\$9.40 per 1,000 gallons)	\$ 84.60
Capital Buy-In Fee Charge (\$0.73 per 1,000 gallons)	\$ 6.57
White Pines Water System Improvements (\$2,625 per year divided equally over 6 billing cycles)	\$ 438.00
TOTAL ESTIMATED BI-MONTHLY WATER BILL	\$ 534.95

Summary

This letter has detailed two possible water service alternatives that include the participation by DuPage County. Each option fully replaces the water pipes within the White Pines Subdivision. Option #1 allows DuPage County to receive their water from Bensenville, while Option #3 allows DuPage County to receive their water from the DuPage Water Commission. **Residents should fully understand that both of these options are significantly more expensive than the option being presented by the Village of Bensenville. Ultimately, the DuPage County options will cost the White Pines residents more money on a monthly basis than the Village of Bensenville option.** In addition, the process of watermain replacement within the White Pines Subdivision would be significantly delayed while the County pursues financing from the Illinois Environmental Protection Agency.

Should the residents of White Pines wish to pursue one of the listed DuPage County options, a petition will be required to be signed from a clear majority of the homeowners within the subdivision requesting that the County move forward with a specific option. If the Civic Association is interested in pursuing a petition, the County would request that we assist in the development of the wording for the petition. It will be necessary that the petition include the costs and conditions outlined in this letter. Once the petition is submitted to the County, it will then be presented to the Public Works Committee and County Board for consideration of project approval.

If you have any questions regarding the information contained in this letter, please do not hesitate to contact me.

Respectfully,



Nicholas W. Kottmeyer, P.E.
Director of Public Works and Operations

Cc: District 1 County Board Members
Village of Bensenville

WHITE PINES WATER SYSTEM IMPROVEMENTS
 DUPAGE COUNTY OPTIONS
 PREPARED: SEPTEMBER 2015

OPTION #1 DuPage County takes over White Pines Water System after full replacement of water lines and purchases water from bordering municipality.

- Assumptions:
- 1) Watermains to be replaced are identical to Bensenville plan. During final design phase of project value engineering will be completed to determine which, if any, pipes will remain in place or be rehabilitated in place.
 - 2) Village of Bensenville assumed to be the water supplier to DuPage County due to existing boundary agreements and proximity to systems.
 - 3) Storage requirements for public water systems assumed to be supplied by Village of Bensenville.
 - 4) CPI Index changes based upon average from 2010 to 2014 for Chicago area as computed by US Department of Labor
 - 5) It is anticipated that construction would be initiated in 2018 (following loan approval, design, permitting, intergovernmental agreements)
 - 6) Contribution from utility fund provided by Village of Bensenville

Project Cost Estimate:

Project Component	Component Expense
8" watermain (includes hydrants & restoration) - 13,560 feet @ \$150 per foot	\$ 2,047,500.00
8" watermain in Route 83 Right-Of-Way (incl. hydrants & restoration) - 2,250 feet @ \$200 per foot	\$ 450,000.00
12" watermain (includes hydrants & restoration) - 3,380 feet @ \$175 per foot	\$ 591,500.00
New Services To Right-Of-Way (282 homes, only 262 homes on water system @ \$2,500 per service)	\$ 705,000.00
New Private Services (moved from back to front of house for 167 homes @ \$7,500 per home)	\$ 1,252,500.00
Metering Facilities - Connection to Bensenville System (8 connection locations @ \$40,000 each)	\$ 320,000.00
<i>Sub-Total Construction Expenses</i>	\$ 5,366,500.00
Contingency (10%)	\$ 536,650.00
<i>Total Construction Expenses (including contingency)</i>	\$ 5,903,150.00
Preparation & Submission of IEPA Low Interest Loan Application	\$ 30,000.00
Final Design Engineering and Permitting (7% of construction expenses)	\$ 413,220.50
Construction Management/Resident Engineering (8% of construction expenses)	\$ 472,252.00
Administration/Legal/Easements/Permitting	\$ 175,000.00
<i>TOTAL CONSTRUCTION EXPENSES (assuming immediate construction)</i>	\$ 6,993,622.50
CPI Price Index Adjustment For Project Construction Delay To 2018 (1.88% per year for 3 years)	\$ 394,440.31
<i>TOTAL PROJECT ESTIMATED PROJECT EXPENSES (prior to contribution from utility fund)</i>	\$ 7,388,062.81
Contribution From Bensenville Unincorporated Utility Fund	\$ (900,000.00)
TOTAL REQUIRED FUNDING FOR COMPLETION OF PROJECT (DUPAGE COUNTY OPTION #1)	\$ 6,488,062.81

WHITE PINES WATER SYSTEM IMPROVEMENTS
 DUPAGE COUNTY OPTIONS
 PREPARED: SEPTEMBER 2015

OPTION #3 DuPage County takes over White Pines Water System after full replacement of water lines and purchases water from Water Commission.

- Assumptions:
- 1) Watermains to be replaced are identical to Bensenville plan. During final design phase of project value engineering will be completed to determine which, if any, pipes will remain in place or be rehabilitated in place.
 - 2) Water Commission assumed to provide water to White Pines water system (water tower storage and metering station required).
 - 3) CPI Index changes based upon average from 2010 to 2014 for Chicago area as computed by US Department of Labor
 - 4) It is anticipated that construction would be initiated in 2019 (following loan approval, design, permitting, intergovernmental agreements)
 - 5) Project dependent upon Lake Michigan allocation approval from the Illinois Department of Natural Resources
 - 6) Contribution from utility fund provided by Village of Bensenville

Project Cost Estimate:

Project Component	Component Expense
8" watermain (includes hydrants & restoration) - 13,560 feet @ \$150 per foot	\$ 2,047,500.00
8" watermain in Route 83 Right-Of-Way (incl. hydrants & restoration) - 2,250 feet @ \$200 per foot	\$ 450,000.00
12" watermain (includes hydrants & restoration) - 3,380 feet @ \$175 per foot	\$ 591,500.00
New Services To Right-Of-Way (282 homes, only 262 homes on water system @ \$2,500 per service)	\$ 705,000.00
New Private Services (moved from back to front of house for 167 homes @ \$7,500 per home)	\$ 1,252,500.00
Construction of DuPage Water Commission Metering Station	\$ 1,000,000.00
Construction of 350,000 gallon storage tank (includes land acquisition)	\$ 1,600,000.00
<i>Sub-Total Construction Expenses</i>	<i>\$ 7,646,500.00</i>
Contingency (10%)	\$ 764,650.00
<i>Total Construction Expenses (including contingency)</i>	<i>\$ 8,411,150.00</i>
Preparation & Filing of Lake Michigan Allocation Request	\$ 75,000.00
Preparation & Submission of IEPA Low Interest Loan Application	\$ 30,000.00
System Modeling Required For Design of Stand Alone System with Tower & Metering Station	\$ 75,000.00
Final Design Engineering and Permitting (7% of construction expenses)	\$ 588,780.50
Construction Management/Resident Engineering (8% of construction expenses)	\$ 672,892.00
Administration/Legal/Easements/Permitting	\$ 250,000.00
<i>TOTAL CONSTRUCTION EXPENSES (assuming immediate construction)</i>	<i>\$ 10,102,822.50</i>
CPI Price Index Adjustment For Project Construction Delay To 2019 (1.88% per year for 4 years)	\$ 759,732.25
TOTAL PROJECT ESTIMATED PROJECT EXPENSES (prior to contribution from utility fund)	\$ 10,862,554.75
Contribution From Bensenville Unincorporated Utility Fund	\$ (900,000.00)
TOTAL REQUIRED FUNDING FOR COMPLETION OF PROJECT (DUPAGE COUNTY OPTION #1)	\$ 9,962,554.75