



12 S. Center St.
Bensenville, IL 60106

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www.bensenville.il.us

VILLAGE BOARD

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Evan K. Summers

May 20, 2016

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

Dear Board of Directors,

The Village of Bensenville is pleased to provide this proposal in response to your formal request dated April 22, 2016. Our proposal is consistent with discussions between the Village and the WPCA over the past few years. Our goals remain the same - to provide a reliable water distribution system that will allow the Village of Bensenville to deliver the very best in quality water to the residents of White Pines, to install a system that is accessible for maintenance purposes, and to offer a system that maintains the necessary fire flow protection for emergency situations.

Our proposal will identify a recommended project to be constructed, discuss funding options and strategies, and present a rate structure to support the ongoing operation, maintenance and infrastructure needs.

At the request of the White Pines Civic Association, the Village is offering this proposal as an alternative to a previous proposal that included annexation.

We hope that this proposal meets your needs. If you require any additional information or clarification, please do not hesitate to call.

Respectfully,

Evan K. Summers
Village Manager

Joseph M. Caracci, P.E.
Director of Public Works

Cc: Village Board of Trustees



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History

For decades, the Village of Bensenville and the residents within the greater White Pines Area have been attempting to resolve a long standing issue related to a poor water system that provides Lake Michigan water to the area. Unfortunately, no solutions or consensus had been made that was acceptable to the residents, Village, Fire District, or DuPage County. As such, we have done nothing and continued to watch our water system deteriorate.

In recent years, the Village, DuPage County, and the White Pines Civic Association (WPCA) have again been meeting to discuss the future of the system. The WPCA is now seeking proposals from the Village, the County, and an independent water supplier to own, operate, maintain, and upgrade their system.

Existing System

The White Pines water system consists of mostly backyard 6" water mains constructed in the 1940's. Many service lines extend out the backs of homes and connect to the original back yard mains. Repairs of these mains are very difficult with respect to access and restoration. Some system improvements have been performed since the 40's along White Pines Road, Briar Lane, and 3rd Avenue. However, the overall condition of the system is in very poor shape. In the past 10 years, the number of water main breaks within the White Pines area system have accounted for nearly 20% of the total Village breaks. Fire flow capacities are substandard – to the point that the Fire District has indicated that they do not rely on the system for protection. The system is well beyond its useful life and must be replaced to insure a system that has the ability to provide the best quality water in a safe and reliable manner.

Recommended Project

With the assistance of Christopher B. Burke Engineering, Ltd. (CBBEL), the Village has established a scope of work (existing conditions and proposed scope of work maps are enclosed) and a preliminary cost estimate to reconstruct this system and bring it up to current standards and fire flow capacity. The Village presented to the White Pines Civic Association (WPCA) an Alternatives Analysis at a meeting on March 15, 2016. At the conclusion of that presentation, a "Recommended Project" was brought forth that utilized a combination of conventional open cut

construction, potential water main lining, and potential directional drilling. The proposed project strikes a balance between cost-effectiveness and managing qualitative considerations. The estimated cost of the proposed project was \$6.56 million. With the addition of installing 21 services along Church Road and other work that was planned to be completed as part of an advanced contract, the new estimated cost of the proposed project is \$6.83 million. The details and cost estimate for this proposed project can be found in Exhibit D of this proposal.

The project would consist of replacing, rehabilitating, and upgrading water mains that are more than 25 years old or undersized for fire flow capacity. Those mains currently located in the rear yards would be relocated to the parkways. Existing service lines that are connected to backyard mains would be relocated to the new mains in the parkway. Existing service lines that are connected to mains in the parkway would receive a new service from the main to the buffalo box. Approximately 19,200 feet of water main would be replaced/rehabilitated along with nearly 160 new private services redirected from the rear yards.

Funding Options

Over the years, attempts have been made to reconstruct the system to no avail. The Village has been applying a surcharge to unincorporated residents of Bensenville, who are recipients of Lake Michigan water through the Village. This surcharge was an attempt to accumulate funds sufficient to replace the aging system. Nearly \$1.0 million had been secured for the unincorporated customers. However, this amount is largely insufficient to replace this system.

The Village has applied for the Illinois Environmental Protection Agency (IEPA) Revolving Loan Program. The status of the loan is currently pending. The Revolving Loan program is a very low cost mechanism to finance the project. The fiscal year 2015-2016 rate is currently 1.86% - which is very attractive. In order to finalize the loan application, the Village would need support from the WPCA to secure the loan. Outside of the IEPA loan program, the current rate for the Village to secure a bond is approximately 4.5%. Our analysis and proposal is based on utilizing the IEPA Loan Program. If the WPCA does not support the use of the IEPA loan, an alternate analysis and rate structure would need to be performed and presented. As we would not be in a position to move forward with the loan this year, we are using a 2.0% rate for our analysis and proposal.

The IEPA Revolving loan program is anticipated to finance the project. At \$6.83 million minus approximately \$1.0 million (from the unincorporated utility fund) for a 20-year loan at 2.00% interest rate, annual debt service payments would be approximately \$356,550. There are two mechanisms that could be utilized to pay off this debt – establish a Special Service Area (SSA) or include the debt on customer utility bills.

An SSA is a mechanism that will distribute the annual debt across the Equalized Assessed Value (EAV) of the White Pines residents. All residents within the White Pines area would be required to participate in the SSA. For the average home in White Pines the EAV is \$76,700 (\$68,962 after exemptions) the corresponding annual cost would be \$1,196.45. This amount would be added to your County Tax bill each year.

The second mechanism for paying the debt, would be to add an additional debt service charge to the monthly utility bill. The Village would need to apply an unincorporated debt service fee on top of the current utility bill for the proposed project. All unincorporated customers would pay a fixed fee of \$98.38 on the monthly bill. This equates to an annual fee of \$1,180.56.

Rate Structure

For comparison purposes, we have compiled what a normal monthly cost on a utility bill would be based on the average consumption in our unincorporated area of 4,500 gallons. Based on our current rates, the water / sewer bills for an unincorporated customer with water and sewer service is \$125.54.

We have separated the additional debt payment necessary under the two different funding mechanism scenarios. Both of these mechanisms produce the necessary annual revenue of \$356,543.67 to pay off the IEPA loan for the project.

Depending on the funding option selected, the rates for water would be as follows:

For the SSA option:

Debt Service Charges on Property Tax Bill (SSA Tax)	
	Average User
	4500 Gallons Month
<u>Water</u>	
Water - \$9.98 per 1000 Gallon	44.91
Water Debt Service - \$4.23 Fixed	4.23
Capital Recovery - \$4.13 per 1000 Gallons	12.38
Monthly Water Bill	61.52
<u>Sewer</u>	
Sewer - \$7.89 per 1000 Gallon	35.51
Sewer Debt Service - \$8.40 Fixed	8.40
Capital Recovery - \$4.47 per 1000 Gallons	20.12
Monthly Sewer Bill	64.02
Total Monthly Bill	125.54
Total Annual Water Bil	\$1,506.42

Average White Pines EAV	76,700.00
Average Exemptions	(7,738.09)
Net Average EAV	68,961.91
Aggregate Net EAV for SSA	20,550,690.00
Average Tax Burden Ratio	0.3356%
Total Annual SSA Tax Burden/Debt Service	356,543.67
Average Annual SSA Tax Burden	1,196.45
Average Monthly SSA Tax Burden	99.70

Total SSA Tax + Water Bill Monthly	225.24
Total SSA Tax + Water Bill Annually	2,702.87

For the Water Bill Option:

Debt Service Charges on Water Bill	
	Average User
	4500 Gallons Month
<u>Water</u>	
Water - \$9.98 per 1000 Gallon	44.91
Water Debt Service - \$4.23 Fixed	4.23
Capital Recovery - \$4.13 per 1000 Gallons	12.38
Monthly Water Bill	61.52
<u>Sewer</u>	
Sewer - \$7.89 per 1000 Gallon	35.51
Sewer Debt Service - \$8.40 Fixed	8.40
Capital Recovery - \$4.47 per 1000 Gallons	20.12
Monthly Sewer Bill	64.02
<u>IEPA Loan Debt Service Fixed Charge (Monthly)</u>	
Loan: 5,830,000	
Rate: 2.00%	
Term: 20 Years	
Total Unincorporated Accounts: 302	
Total Annual Debt Service: \$356,543.67	98.38
Monthly Debt Service Charge for IEPA Loan	98.38
Total Monthly Bill	\$223.92
Total Annual Water Bill	\$2,687.03

- Annual water / sewer rates will be subject to future rate increases by the Village of Bensenville.
- Annual SSA Tax bill is recalculated each year based on new EAV for individual homes as well as total EAV for the established SSA parcels.

Additional Requirements of White Pines Customers

Undertaking a project of this significance takes an extensive amount of time and effort. In order to successfully complete this project in an expeditious and productive manner, there are some additional needs the Village must secure before moving forward.

- The analysis and rates proposed above depend on the utilization of an IEPA Revolving Loan. The WPCA must support the IEPA Application and allow the Village to secure the loan.
- If the customers would like to utilize the SSA Mechanism as a funding mechanism, we must receive the necessary majority to establish the SSA by September 1, 2016.
- As replacing service lines on private property is necessary, the Village must receive Temporary Construction Easements from each resident within the Project Corridor.
- The WPCA will need to support and assist in the acquisition of easement from Addison Township to install facilities within the Township ROW.
- Upon completion of the project, the WPCA must dedicate the water system to the Village of Bensenville.
- This proposal is ultimately subject to the Village Board approval.

TECHNICAL MEMORANDUM

APPENDIX D

RECOMMENDED PROJECT

EXHIBIT D-1 – Recommended Project Scope Map

EXHIBIT D-2 – Recommended Project Estimate of Cost

EXHIBIT D-3 – Proposed Available Fire Flow (Recommended Project)

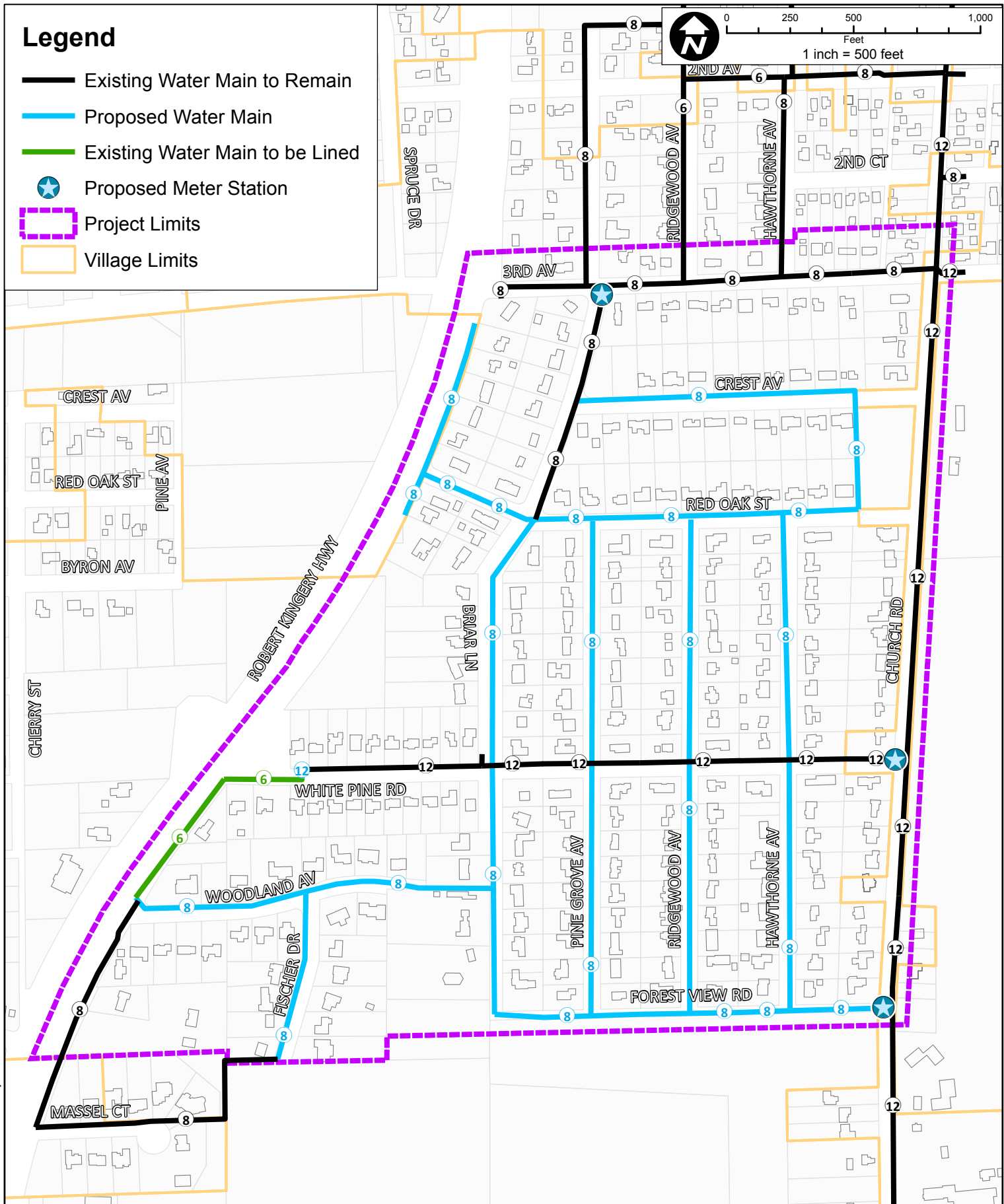
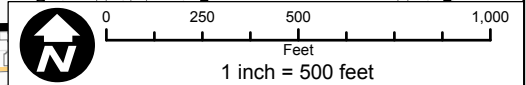


CHRISTOPHER B. BURKE ENGINEERING, LTD.

9575 W Higgins Road, Suite 600 Rosemont, Illinois 60018-4920 Tel (847) 823-0500 Fax (847) 823-0520

Legend

- Existing Water Main to Remain
- Proposed Water Main
- Existing Water Main to be Lined
- Proposed Meter Station
- Project Limits
- Village Limits



CLIENT:



TITLE:

WHITE PINES AREA RECOMMENDED PROJECT

PROJ. NO. 120433

DATE: 02-17-16

SHEET 1 OF 1

DRAWING NO.



CHRISTOPHER B. BURKE ENGINEERING, LTD.
9575 W. Higgins Road, Suite 600 · Rosemont, Illinois 60018 · (847) 823-0500

DSGN.		SCALE:	1:6000
DWN.		AUTHOR:	DWALTERS
CHKD.		PLOT DATE:	2/18/2016
FILE:	Recommended Project		

EXH D-1

EXHIBIT D - 2

WHITE PINES WATER SYSTEM IMPROVEMENTS MAY 20,2016

PROJECT COST ESTIMATE - RECOMMENDED PROJECT

Location	Existing	Proposed	New Water Main			CIPP Water Main Lining			New Public Water Service			New Private Water Service			Total Cost
	Main Location	Main Location	Length	Cost per Ft	WM Cost	Quantity	Cost per Ea	Cost	Quantity	Cost per Ea	Cost	Quantity	Cost per Ea	Cost	
8" Water Main															
Crest	Road	Road	1,200	\$190	\$228,000	0	\$218	\$0	22	\$2,500	\$55,000	0	\$6,500	\$0	\$283,000
Red Oak (including Crest connect)	Road	Road	2,250	\$190	\$427,500	0	\$218	\$0	16	\$2,500	\$40,000	0	\$6,500	\$0	\$467,500
Church Road	Rear Yard	Road	0	\$190	\$0	0	\$218	\$0	21	\$2,500	\$52,500	21	\$6,500	\$136,500	\$189,000
Hawthorne	Rear Yard	Road	1,950	\$190	\$370,500	0	\$218	\$0	35	\$2,500	\$87,500	35	\$6,500	\$227,500	\$685,500
Ridgewood	Rear Yard	Road	1,950	\$190	\$370,500	0	\$218	\$0	36	\$2,500	\$90,000	36	\$6,500	\$234,000	\$694,500
Pine Grove	Rear Yard	Road	1,950	\$190	\$370,500	0	\$218	\$0	36	\$2,500	\$90,000	36	\$6,500	\$234,000	\$694,500
Briar Lane (Red Oak to Forestview)	R.Yard & Road	Road	2,025	\$190	\$384,750	0	\$218	\$0	28	\$2,500	\$70,000	23	\$6,500	\$149,500	\$604,250
Forestview	Roadway	Road	1,525	\$190	\$289,750	0	\$218	\$0	0	\$2,500	\$0	0	\$6,500	\$0	\$289,750
Rte 83	Rear Yard	Road	1,050	\$290	\$304,500	0	\$218	\$0	8	\$2,500	\$20,000	8	\$6,500	\$52,000	\$376,500
Woodland	Road	Road	1,500	\$190	\$285,000	0	\$218	\$0	18	\$2,500	\$45,000	0	\$6,500	\$0	\$330,000
Fisher	Road	Road	725	\$190	\$137,750	0	\$218	\$0	9	\$2,500	\$22,500	0	\$6,500	\$0	\$160,250
Rte 83 Frontage Road	IDOT ROW	Lining	0	\$290	\$0	925	\$218	\$201,650	6	\$2,500	\$15,000	0	\$6,500	\$0	\$216,650
Metering Stations															
Briar Lane @ 3rd Avenue															\$120,000
White Pines @ Church Road															\$140,000
Forestview Drive @ Church Road															\$140,000
Construction Subtotals:			16,125		\$3,168,750	925		\$201,650	235		\$587,500	159		\$1,033,500	\$5,391,400
Contingency (10%):					\$316,875			\$20,165			\$58,750			\$103,350	\$539,140
Estimated Construction Cost:					\$3,485,625			\$221,815			\$646,250			\$1,136,850	\$5,930,540

Estimated Construction Cost: \$5,940,000

Notes:

1. Estimate does include work associated with the Church Road Advance Contract.
2. Estimate includes new water services, fire hydrants, valves in vaults, etc.
3. Water main lining cost per foot same as IAWC/Elmhurst 2014 lining project (\$458,000/2,100 feet), and is inclusive of new fire hydrants and valves. This cost is lower than the \$230/foot observed on a similar 2015 project in Orland Park and the \$247.89 per linear foot referenced in USEPA paper (EPA/600/R-12/012) entitled "Performance Evaluation of Innovative Water Main Rehabilitation Cured-in-Place Pipe Lining Product in Cleveland, Ohio" dated February 2012.
4. Estimate does not account for any issues caused by the existing host pipe or service condition related to CIPP lining.
5. Estimate does not include any work on 3rd Avenue, Briar Lane (3rd Avenue to Red Oak), White Pines Road and Church Road.
6. Estimate does not include roadway resurfacing.

Design Engineering & Permitting (per contracts):	\$387,277
Construction Engineering (8%):	\$474,444
Legal Fees:	\$25,000
Total Engineering, Permitting & Legal:	\$886,721

TOTAL PROJECT COST: \$6,830,000

