STATE OF WEST VIRGINIA
DEPARTMENT OF HEALTH AND HUMAN RESOURCES
Bureau for Public Health
Office of Environmental Health Service

Bill J. Crouch
Cabinet Secretary

Ayne Amjad, MD, MPH
Commissioner & State Health Officer

MEMORANDUM

TO: Marie Prezioso, Chairman, Technical Review and Funding Committee
WV Infrastructure and Jobs Development Council

FROM: Stephanie Hickerson, P.E.
Water Technical Review and Funding Committee

DATE: June 28, 2022

RE: City of Piedmont Request for Scope, Cost & Funding Change
Water System Improvements
IJDC Preliminary Application: **2019W-1836**
Mineral County

REQUEST:

The City of Piedmont is requesting a change in project scope, cost, and funding.
The closure of the Verso Paper Mill, from which Piedmont was obtaining its raw water, forced the City to develop various alternatives provide a new raw water source, or to decommission the water treatment plant and to purchase treated water from Westernport, MD or from Keyser, WV. The connection to Westernport, MD was found, initially, to be the most economical alternative, and the City received funding to design and construct the Potomac River crossing; that design was completed in 2021. The connection to Westernport stalled because of significant design and construction issues that precluded a directionally drilled crossing, and because of serious rate issues that developed with a change in, the purchase price (sale for resale) rate that Westernport proposed for Piedmont.

It was recommended by the IJDC Council at the May meeting that Piedmont move forward with a project to connect to the City of Keyser and decommission their current WTP. This project scope includes approx. 25,000 LF of 6" water main, 150 gpm booster station, and a new water storage tank. This project would also allow approximately 30 new customers to be served in the community of Keymont, which is approx.. halfway between Keyser and Piedmont. The estimated total cost for this project is $6,337,200. The new funding scenario is shown below.

$1,576,520	USEDA Grant
$1,000,000	IJDC Grant
$1,500,000	DWTRF Principal Forgiveness
$2,260,680	Congressional Earmark

RECOMMENDATION:

The Technical Review Committee believes there are no technical issues related to this request and therefore recommends review and approval by the IJDC Technical and Funding Committee.

Region 8 Planning and Development Council

Grant County Industrial Park
131 Providence Lane
Petersburg, WV 26847

Telephone (304) 257-2448
Fax (304) 257-4958
E-Mail: mail@regioneight.org

June 10, 2022

Wayne D. Morgan, P.E. MBA
Executive Director
WV Infrastructure & Jobs Development Council
1009 Bullitt Street
Charleston, WV 25301

Re: Piedmont Emergency Water Project
WVIJDC Project Number 2019W-1836

Dear Mr. Morgan:

The City of Piedmont, and the entire project team requests the WVIJDC approve a change in the project funding scenario, change of scope and cost for the City of Piedmont Emergency Water Project.

The change in the project thus would be:

Original Project Budget

$1,576,520 USEDA Grant
$ 394,130 IJDC Grant

$2,069,650 TOTAL PROJECT

New Project Budget

$1,576,520 USEDA Grant
$1,000,000 IJDC Grant
$1,500,000 DWTRF Grant
$2,260,680 Congressional Earmark Grant

$6,337,200 TOTAL PROJECT

Please note, the totals do not include the PFA amounts that were requested for the TAP Fee Assistance.

This project was presented at before the IJDC Technical Review and Funding Committee in May, 2022, with recommendation that the project should move forward with the connection to the City of Keyser option. It has been determined the connections to Westernport, MD was not feasible.

Enclosed are copies of the Technical Review Report, engineers preliminary budget summary and updated Schedule B for your review.

Should you have any questions, please contact me here at Region 8 Planning and Development Council.

Sincerely,

Pam Keplinger

Pam Keplinger
Project Assistant

Piedmont Emergency Water

Connection to Keyser

6/10/2022

IJDC PROJECT 2019W-1836

A. COST OF PROJECT		TOTAL	EDA Grant	IJDC Grant District 1	DWTRF Grant	Congressional Direct Spending
		6,337,200.00	**1,576,520.00**	**1,000,000.00**	**1,500,000.00**	**2,260,680.00**
1 Construction						
a. Construction		4,632,000.00	1,576,520.00	111,700.00	683,100.00	2,260,680.00
2 Construction Contingency	10.0%	463,200.00		216,300.00	246,900.00	0.00
3 Legal						
a. Project Attorney		20,000.00		20,000.00	0.00	0.00
b. PSC Attorney		35,000.00		35,000.00	0.00	0.00
4 Accountant		40,000.00		40,000.00	0.00	0.00
5 Technical Services						
a. Study		25,000.00		25,000.00	0.00	0.00
b. Design		215,000.00		215,000.00	0.00	0.00
c. Bidding and Negotiation		25,000.00		0.00	25,000.00	0.00
d. Construction Engineering		250,000.00			250,000.00	0.00
e. Project Inspection		270,000.00			270,000.00	0.00
f. Post Construction		25,000.00			25,000.00	0.00
g. Special Services						
AIS Compliance		12,000.00		12,000.00	0.00	0.00
Permitting		15,000.00		15,000.00	0.00	0.00
Surveying and Mapping		45,000.00		45,000.00	0.00	0.00
6 Administration						
a Project Administrator		155,000.00		155,000.00	0.00	0.00
b Other Admin (legal ads, conf calls)		10,000.00		10,000.00	0.00	0.00
7 Lands						
a Easements and Lands		20,000.00		20,000.00	0.00	0.00
8 Permits/Power to site		40,000.00		40,000.00	0.00	0.00
9 Project Contingency		40,000.00		40,000.00	0.00	0.00
10 Sub Total line 1 thru 9		**6,337,200.00**	**1,576,520.00**	**1,000,000.00**	**1,500,000.00**	**2,260,680.00**
B. Cost of Financing						
11 Funded Reserve		0.00	0.00	0.00	0.00	0.00
12 Capitalized Interest		0.00	0.00	0.00	0.00	0.00
13 Registrar Fees		0.00	0.00	0.00	0.00	0.00
14 Bond Counsel		0.00	0.00	0.00	0.00	0.00
15 Sub Total Cost of Financing		0.00	0.00	0.00	0.00	0.00
16 Total Cost of Project (Line 10 + Line 15)		**6,337,200.00**	**1,576,520.00**	**1,000,000.00**	**1,500,000.00**	**2,260,680.00**
C. SOURCES OF OTHER FUNDS						
17 Federal Grant		5,337,200.00	1,576,520.00	0.00	1,500,000.00	2,260,680.00
18 State Grant (IJDC)		1,000,000.00	0.00	1,000,000.00	0.00	0.00
19 Other Grants (Local/Private)		0.00	0.00	0.00	0.00	0.00
20 Total Grants		6,337,200.00	1,576,520.00	1,000,000.00	1,500,000.00	2,260,680.00
21 Total Bond Issue		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Dunn Engineers

City of Piedmont

CITY OF PIEDMONT
Water System - Connection to Keyser, WV
PRELIMINARY BUDGET SUMMARY

LINE ITEM	COST	TOTAL COST
Construction Cost		**$4,632,000**
Engineering		
Planning	$25,000	
Design	$215,000	
Bidding	$25,000	
Construction Engineering (20 months)	$250,000	
Resident Project Representative (18 months)	$270,000	
Special Services (AIS Compliance Reviews)	$12,000	
Special Services (Permitting)	$15,000	
Special Services (Surveying & Mapping)	$45,000	
Post Construction	$25,000	
SUBTOTAL		**$882,000**
Legal		
Project Attorney	$5,000	
Rights-of-Way	$15,000	
PSC Attorney	$35,000	
SUBTOTAL		**$55,000**
Administrative / Accounting		
Project Coordinator	$155,000	
CPA	$40,000	
Permits and Power to Site	$40,000	
SUBTOTAL		**$235,000**
Financing		
Interim Financing	$20,000	
Bond Counsel	$30,000	
SUBTOTAL		**$50,000**
Site Easements and ROWs		
Land Acquisition Costs	$0	
Easement Costs	$20,000	
SUBTOTAL		**$20,000**
PROJECT SUBTOTAL		**$5,874,000**
Construction Contingency @ +/- 10%		$463,200
TOTAL PROJECT COST		**$6,337,200**

DUNN ENGINEERS, INC.
April 2022

STATE OF WEST VIRGINIA
DEPARTMENT OF HEALTH AND HUMAN RESOURCES
Bureau for Public Health
Office of Environmental Health Service

Bill J. Crouch
Cabinet Secretary

Ayne Amjad, MD, MPH
Commissioner & State Health Officer

MEMORANDUM

TO: Marie Prezioso, Chairman, Technical Review and Funding Committee
WV Infrastructure and Jobs Development Council

FROM: Stephanie Hickerson, P.E. SDH
Water Technical Review and Funding Committee

DATE: May 24, 2022

RE: City of Piedmont Request for Scope, Cost & Funding Change
Water System Improvements
IJDC Preliminary Application: **2019W-1836**
Mineral County

REQUEST:

The City of Piedmont is requesting a change in project scope, cost, and funding.
The closure of the Verso Paper Mill, from which Piedmont was obtaining its raw water, forced the City to develop various alternatives provide a new raw water source, or to decommission the water treatment plant and to purchase treated water from Westernport, MD or from Keyser, WV. The connection to Westernport, MD was found, initially, to be the most economical alternative, and the City received funding to design and construct the Potomac River crossing; that design was completed in 2021. The connection to Westernport stalled because of significant design and construction issues that precluded a directionally drilled crossing, and because of serious rate issues that developed with a change in, the purchase price (sale for resale) rate that Westernport proposed for Piedmont. That change has resulted in proposed post-project rates for Piedmont's customers of approximately $85/month for 3,400 gallons, and that rate cannot be implemented or sustained for very long. Piedmont's MHI is only $22,353, so the $85 rate would equate to 4.5% of MHI.
Three alternative water sources (two intakes and another potable water connection) were recently evaluated by the project engineer. Two alternatives were found to be technically feasible. One alternative is to construct an intake along Savage River and make improvements to and continue to use the current WTP. The construction cost for this alternative is $4,131,050. The other alternative is to connect to the City of Keyser and purchase finished water. This alternative would also allow the project to provide public water service to 30 homes in the Keymont area and would allow Piedmont to decommission its WTP. The construction cost for this alternative is $5,590,200.
There were no total project costs or funding scenarios provided for review.

RECOMMENDATION:

The Technical Review Committee believes that the project should move forward with the

connection to the City of Keyser option and to come back to council with a full application for this project scope.

CITY OF PIEDMONT
Water Source Evaluation (Revised)
April 2022

Background

The City of Piedmont currently provides water service to approximately 243 residential customers and 24 commercial customers; according to the 2021 PSC Annual Report, the commercial customers use approximately 33% of the water sold by the City. According to the Annual Reports for the past 4 years (2018 - 2021), Piedmont has pumped and treated an average of 61,000 gpd and sold an average of 42,000 gpd. Raw water is currently being obtained from the Town of Westernport, MD's raw water main and the Savage River Reservoir at an approximate yearly cost of $70,000.

The closure of the Verso Paper Mill, from which Piedmont was obtaining its raw water, forced the City to develop various alternatives provide a new raw water source, or to decommission the water treatment plant and to purchase treated water from Westernport, MD or from Keyser, WV. The connection to Westernport, MD was found, initially, to be the most economical alternative, and the City received funding to design and construct the Potomac River crossing; that design was completed in 2021. The connection to Westernport stalled because of significant design and construction issues that precluded a directionally drilled crossing, and because of serious rate issues that developed with a change in the purchase price (sale for resale) rate that Westernport proposed for Piedmont. That change has resulted in proposed post-project rates for Piedmont's customers of approximately $85/month for 3,400 gallons, and that rate cannot be implemented or sustained for very long. Piedmont's MHI is only $22,353, so the $85 rate would equate to 4.5% of MHI.

400 SOUTH RUFFNER ROAD • CHARLESTON, WEST VIRGINIA 25314 • TEL (304) 342-3436 • FAX (304) 342-7823
•EMAIL: dunneng@aol.com•

Alternative Water Sources

Three alternative water sources (two intakes and another potable water connection) were recently evaluated, and the findings are shown below.

1. **Potomac River downstream of paper mill**

   - Potential water quality issues due to the old mill
   - Very deep (>50 feet) raw water pump station required
   - Very difficult construction access for the intake structure and screen due to past river bank stabilization (large rock and concrete)
   - No pools for constructing a reliable intake (Potomac River is shallow at that point)

This alternative was found to be technically non-viable.

2. **Savage River 0.85 miles above confluence with Potomac River**

   - Intake site is located in Maryland, 2 miles upstream of Piedmont and the paper mill.
   - Water quality assumed to be satisfactory, since Bloomington, MD recently constructed an intake approximately 0.25 miles upstream of the proposed intake site.
   - Reasonable access to the site, and a reasonable wetwell depth would be available.
   - Would utilize part of Piedmont's existing raw water main (including a 3,000 LF section through the paper mill); sections of that main, however, are over 100 years old, are prone to breakage and need to be replaced.

- Replacing the oldest mains through the mill site would require excavation between two active train tracks (portions of the main are located under rail ties and even under the rails, and none of the main was, to our knowledge, installed in steel casing). The City holds deeds from the predecessor railroad, dating to 1900, that allows (unrestricted?) installation and maintenance of mains smaller than 20 inches; it is doubtful, however, that the current owner (CSX) would allow wholesale replacement by conventional trenching in between two active tracks that are only a few feet apart, regardless of the deed covenants.

- The existing 400 foot long, uninsulated 10-inch steel river crossing, which is attached to a bridge that is owned by the mill, would have to be replaced with a 6-inch insulated pipe.

- For long term viability, at least some improvements will have to be made to the water treatment plant, including replacement of the backwash pump, HVAC system and improvements to the building and "shed" over the pre-sedimentation tank. A new dehumidification system will need to be installed, and also metering equipment (chemical feed pumps, pH meter, turbidity meters, etc.).

- Any significant reduction in customer numbers will make the continued financial stability questionable, given the increasing costs of parts, chemicals, power and labor.

- The construction cost estimate for this alternative is shown in Table 1.

TABLE 1
CITY OF PIEDMONT
SAVAGE RIVER RAW WATER INTAKE
PRELIMINARY COST ESTIMATE

Item	Qty	Unit	Unit Cost	Total Cost
150 gpm Raw Water Intake & Pump Station (including generator)	1	LS	$1,000,000	$1,000,000
6" DR14 PVC (from intake to raw water main)	1,500	LF	$100	$150,000
Connect to Existing System	6	EA	$2,500	$15,000
Telemetry	1	LS	$40,000	$40,000
6" Insulated Bridge Crossing (DIP; factory insulated)	400	LF	$1,000	$400,000
Air Release Valve	1	EA	$2,500	$2,500
6" Gate Valve	4	EA	$2,000	$8,000
6" CL350 DIP (thru mill site) *	3,000	LF	$450	$1,350,000
Test 4,000' existing 10" line	1	LS	$15,000	$15,000
Subtotal - Raw Water Intake				**$2,980,500**
Replace Existing Backwash Pump	1	LS	$50,000	$50,000
Building Modifications & Upgrades **	1	LS	$500,000	$500,000
Install De-Humidifier System	1	LS	$100,000	$100,000
Replace Meters, Chemical Feed Pumps & Instrumentation	1	LS	$100,000	$100,000
Miscellaneous	1	LS	$25,000	$25,000
Subtotal - Water Treatment Plant Improvements				**$775,000**
Combined Subtotal				**$3,755,500**
Contingency ±10%				$375,550
TOTAL ESTIMATED CONSTRUCTION COST				**$4,131,050**

* *Assumes that railroad will grant permission to replace the pipe in its current location*

** *HVAC, shed over pre-sedimentation basin, lights, etc.*

3. **Connection to the City of Keyser**

- Requires approximately 25,000 LF of 6-inch main (including the line to the tank), a 150 gpm booster pumping station and a +/- 40,000 gallon storage tank

- Could serve approximately 30 homes in the Keymont area, which is located about halfway between Keyser and Piedmont

- Would allow the City of Piedmont to decommission its water treatment plant

- Keyser, according to its most recent PSC Annual Report, has sufficient capacity to provide water to Piedmont

- The estimated construction costs for the connection to Keyser and for service to Keymont are shown in the following tables.

TABLE 2
CITY OF PIEDMONT
KEYSER CONNECTION
PRELIMINARY COST ESTIMATE

Item	Qty	Unit	Unit Cost	Total Cost
6" Class PVC CL250 w/FLG *	25,000	LF	$150	$3,750,000
6" Gate Valve w/Box & Cover	15	EA	$1,500	$22,500
Universal Air Release Valve	3	EA	$2,500	$7,500
Connecting to Existing Mains	2	EA	$5,000	$10,000
Booster PS w/Generator	1	LS	$350,000	$350,000
40,000 Gallon Storage Tank **	1	LS	$450,000	$450,000
Riprap	1,000	LF	$50	$50,000
Type C Gravel Trench Repl.	25,000	LF	$15	$375,000
Special Fill Material	100	TON	$50	$5,000
Video Taping	1	LS	$10,000	$10,000
Site Sign	1	LS	$2,000	$2,000
Field Office	2	EA	$15,000	$30,000
Mobilization	1	LS	$20,000	$20,000
SUBTOTAL CONSTRUCTION				**$5,082,000**
Contingency ±10%				$508,200
TOTAL ESTIMATED CONSTRUCTION COST				**$5,590,200**

* *At least part of this pipe will have to be installed in rock, and production for the whole line will be limited*

** *Sized to provide fire flow to Keymont; cost includes access road and tank site work*

TABLE 3
KEYMONT, WV
PRELIMINARY COST ESTIMATE

Item	Qty	Unit	Unit Cost	Total Cost
4" Class PVC CL200 w/FLG	750	LF	$70	$52,500
2" SDR 13.5 PVC	3,250	LF	$50	$162,500
3/4" Type K Copper Service Line	2,500	LF	$30	$75,000
4" Gate Valve w/Box & Cover	1	EA	$1,500	$1,500
2" Gate Valve w/Box & Cover	4	EA	$1,000	$4,000
Fire Hydrant Assembly	1	EA	$3,750	$3,750
Connecting to Existing Main	1	EA	$2,500	$2,500
Blow-Off Assembly	3	EA	$1,100	$3,300
Meter Settings	30	EA	$1,000	$30,000
Type C Gravel Trench Repl.	4,000	LF	$15	$60,000
Special Fill Material	100	TON	$50	$5,000
SUBTOTAL CONSTRUCTION				**$400,050**
Contingency ±10%				$40,005
TOTAL ESTIMATED CONSTRUCTION COST				**$440,055**
These homes currently utilize wells for potable water				

Discussion of Alternatives

The two potentially viable alternatives (new intake on Savage River and connection to the City of Keyser) have their own set of positive and negative attributes, including construction and O&M costs, permitting and rights of way acquisitions, and long term physical and financial viability. The very small size of the customer base (currently 267 customers) substantially complicates any technical recommendations because of the associated questions involving long term financial viability.

1. Savage River Intake

This alternative has a lower estimated construction cost than the Connection to Keyser alternative, even when some limited improvements to the existing water treatment plant are included in the cost estimates. There will also be an approximate savings of $70,000 per year because raw water will no longer have to be purchased from Westernport.

Property would have to be acquired for the intake site along the Savage River, and easements for approximately 1,500 LF of new pipe, as well as for power service, would have to be acquired, as would permits from the Maryland Department of the Environment. The existing raw water line between the proposed intake and the old mill will have to be pressure tested (it has not been in use for a number of years), and at least a portion of the old line that is located between (or under) the railroad tracks will have to be replaced or re-routed. Even though the City has valid deeds and easements that date to 1900 from the railroad that allows installation and maintenance of pipelines up to 20 inches in diameter, there is doubt that the current railroad would honor them because of the numerous railroad safety regulations that exist now, but did not at the time the deeds and easements were written. Re-routing the line along Maryland Rt. 135 through Luke, MD, as an alternative to installing new pipe between the railroad tracks, would pose its own difficulties because of existing potable and raw water mains and because of physical constraints posed by buildings and retaining walls.

Constructing a new intake on the Savage River is a potentially viable alternative for allowing Piedmont to obtain its raw water, provided that the permitting and construction issues involving the existing raw water line that runs through the Verso paper mill can be overcome. This alternative would leave the water treatment plant in service and serving a very limited customer base. Whether that customer base (currently 267 customers) can sustain the long term operation and maintenance of the water treatment facility, however, is a serious concern.

2. Connection to Keyser

Constructing a connection to the City of Keyser is also an alternative for providing water to Piedmont, and would allow Piedmont's existing water treatment plant to be taken out of service and decommissioned. This alternative would also allow approximately 30 new customers to be served in the community of Keymont, which is approximately halfway between Keyser and Piedmont. This alternative would be more expensive to construct than the intake alternative; Operation and Maintenance costs for the booster pump station and tank would not be much different than that for the raw water intake alternative.

Purchased water would cost (based on Keyser's current tariff) approximately $3.50/1,000 gallons, or essentially the same as the current raw water being purchased from Westernport. There would also be a reduction in Operation and Maintenance costs associated with the materials and chemicals that would no longer have to be purchased.

Conclusions

There are some conclusions that can be drawn from the evaluation of the two water source alternatives, including:

- Construction of the Savage River raw water intake would cost less than constructing a connection to Piedmont

- Water would have to be purchased from Keyser at a rate of less than $3.50/1,000 gallons (current resale rate for Keyser is $3.25/1,000 gallons)

- Operation and Maintenance costs for chemicals and materials associated with the treatment plant would be eliminated with the decommission of the plant

- There are serious permitting and construction challenges associated with replacing the existing raw water line through the old Verso paper mill site

- The final decision regarding the selection of alternatives will depend more on non-monetary factors that are beyond the scope of this study than on the direct comparison of capital costs.