CHARLES TOWN UTILITY BOARD
AGENDA

WEDNESDAY, APRIL 10, 2024

Regular Meeting | **661 South George Street, Charles Town, WV 25414** | **4:00 PM**

CALL TO ORDER

1. **APPROVAL OF MINUTES**
   a. Approval of March 27, 2024 Minutes
   UB Minutes 03.27.24.pdf

2. **PUBLIC COMMENT**
   This portion of the agenda is designed for members of the general public to share thoughts on items of interest in the community. By law, Board members may ask clarifying questions or discuss procedural matters but are not permitted to discuss the policy merits of any issue unless it is scheduled for discussion.

   The Public is invited to attend this meeting in person or via webcast (www.ctubwv.com- Board Meeting - Meeting Agendas and Minutes 2024) or by accessing the following zoom link:

   https://us06web.zoom.us/j/88475382663?pwd=nHFzjJMmYEDlkAmoaoxub5dN492Bht.1

   Meeting ID: 884 7538 2663
   Passcode: 166193
   (301)715-8592

3. **UNFINISHED BUSINESS**

4. **NEW BUSINESS**
   a. Greenfield Forcemain Project - Possible Executive Session Under: WV State Code Section §6-9A-4(b)(12) to discuss any matter which, by express provision of federal law or state statute or rule of court is rendered confidential or to discuss a matter of potential Litigation.
   b. Greenfield Invoice
   Invoice #0374-10-02.pdf
   c. Renewal and Replacement Project Resolution No. 18 - Contractor Pay Application No. 18
   Pay App No. 18.pdf
   d. Source Water Protection Plan Draft
   WV3301905 SWPP 2024 Draft.pdf

e. 2024 Sewer Strategic Plan Draft
SSP 2024 Draft.pdf
f. Resolution 2024-01- FY 2024 Budget Revisions
Budget Revisions.pdf

5. **MANAGER REPORTS**
   a. Utility Manager Report
   UM Report 04.10.24.pdf
   b. Chairman Report

6. **APPROVAL OF BILLS**
   a. April 10, 2024
   Board Report 04.10.24.pdf

7. **ADJOURNMENT**

8. **INFORMATION ONLY**
   a. Next Meeting - April 24, 2024 at 4:00 P.M.

Charles Town Utility Board
Regular Board Meeting
March 27, 2024

The Charles Town Utility Board held a regular meeting on March 27, 2024 at 4:00 P.M. Members of the Board present were John Nissel, Chairman; Duke Pierson, Vice Chairman; Tommy Stocks, Treasurer; Jeff Whitten, Board Member; and Heidi Parker, Board Member. Also present were Kristen Stolipher, Utility Manager; April Shultz, Assistant Utility Manager; Ashley Stottlemyer, Secretary; and Tricia Jackson, County Commission Liaison.

CALL TO ORDER

The Chairman called the meeting to order at 4:00 P.M.

APPROVAL OF MINUTES

Approval of March 13, 2024 Regular Meeting Minutes

The Chairman called for changes or corrections to the March 13, 2024 regular meeting minutes.

Action: **Motion made by Mr. Pierson, second by Mr. Whitten, the Board unanimously approved the March 13, 2024 minutes.**

PUBLIC COMMENT

No public comment was received.

NEW BUSINESS

Rate Summary

Mrs. Stolipher provided a rate summary comparison between the water and sewer rate structures of CTUB and West Virginia American Water. The summary was based on various consumption rates and the cost difference between the two entities. The Board provided discussions.

Action: **No action required by the Board.**

Source Water Protection Grant Application

Mrs. Stolipher briefed the Board on the Source Water Protection Grant for a system-wide sanitary survey and report for the Summit Point raceway to evaluate the utilities in the amount of $35,000.00. At a previous meeting, discussions were held regarding water and sewer service for this area. Mrs. Stolipher provided the application is due by April 30th.

Action: **No action required by the Board.**

Safety Consulting Proposal – Premier Risk Management Solutions, LLC.

Mrs. Stolipher included the new 2024 contract for safety consulting services at a reduced price of $10,000.00 plus travel expenses. Premier Risk offers monthly safety training and certifications for staff.

Action: **Motion made by Mr. Pierson, second by Mr. Stocks, the Board unanimously approved the safety consulting proposal with Premier Risk Management Solutions, LLC for $10,000.00.**

MANAGER REPORTS

Utility Manager Report

Mrs. Stolipher provided an update on the Administrative Order with EPA and mentioned she will attend a water rate forum by the Green Water Coalition after the board meeting. She also thanked Mrs. Shultz and staff for completion/submission of the FY 2023 audit.

Action: **No action required by the Board.**

Chairman Report

The Chairman mentioned he will be attending the water rate forum as well and CTUB day is planned for April 26th.

Action: **No action required by the Board.**

APPROVAL OF BILLS

March 24, 2024

Action: **Motion made by Mr. Stocks, second by Mr. Pierson, the Board unanimously approved the payment of the bills.**

ADJOURNMENT

There being no further business at this time, the Board adjourned the meeting.

Action: **Motion by Mr. Pierson, second by Mr. Whitten, the Board unanimously adjourned the meeting at 4:16 P.M.**

INFORMATION ONLY

The next meeting is scheduled for Wednesday, April 10, 2024 at 4:00 P.M. at 661 S. George Street.

_____ _____

John Nissel, Chairman

Ashley Stottlemyer, Secretary

W. F. Delauter & Son, Inc.
2 Creamery Way
Emmitsburg, MD 21727
Ph: 301-447-5881
Fx: 301-447-5883

Invoice Detail

Bill to: Charles Town Utility Board

Attn:

Date:	3/27/2024
Invoice#:	0374-10-02
Job #:	0374-10-02
Job Name:	CTUB Greenfield

Description: Test Pits 2/27/24-3/4/24

Description	Qty	Rate	Amount
LABOR			
Daily Crew Rate	4.00	$ 4,248.00	$ 16,992.00
EQUIPMENT			
MATERIAL			
CR6 (Ton/Delivered)	38.53	$ 22.96	$ 884.59
Traffic Control	1	$ 2,673.75	$ 2,673.75
Mobilization	1	$ 1,500.00	$ 1,500.00

Please remit payment to:
W. F. Delauter & Son, Inc.
2 Creamery Way
Emmitsburg, MD 21727

Terms: Net 30

Subtotal	**22,050.34**
Sales Tax	
Balance Due	**22,050.34**

W.F. DELAUTER & SON, INC.

T&M TIMESHEET

JOB Greenfield Forcemain DATE 2-27-24

JOB # 0374-10-02 PHASE FCO-1

Equipment Category	WFD Code	Hammer	Rock wheel	Employee	Hours
Ag Tractor/Scraper					
Dozer - Small					
Dozer - Large					
Dump Truck					
Excavator - Small	E-143			Maynor	8
Excavator - Large					
Grade - Mass Exc. Sheepsfoot Roller					
Utility Compaction - Trench Roller					
Hydroseeder/Flush Truck/Water Truck					
MTL Skid Steer					
Off-Road Truck					
Roller - Large -Walk-behind/Ramex					
Roller - Small - Smooth Drum					
Strawblower - Small					
Strawblower - Large					
Tamper					
Track Loader					
Wheel Loader					
RENTAL					
RENTAL					

LABOR	Foreman/Operator/Laborer	Hours
Name	Maynor	8
Name	and Full	
Name	Crew	8
Name		
Name		
Name		

MATERIAL	Qty	MATERIAL	Qty
		Cempatch	
		Straw-Sm Square ☐ *Lg Round* ☐	
		Moving Charge(Roll off/Trailer)	
		Mobilization (Lowboy Trailer)	1

Description of Work/Misc Material

Digging Test pits Trying to Find Bore casing under Rt 340

Flaging Had SHolder closed

W.F. DELAUTER & SON, INC.
WWW.WFDELAUTER.COM

T&M TIMESHEET

JOB Greenfield Forcemain DATE 2-28-24

JOB # 0374-10-02 PHASE FCO-1

Equipment Category	WFD Code	Hammer	Rock wheel	Employee	Hours
Ag Tractor/Scraper					
Dozer - Small					
Dozer - Large					
Dump Truck					
Excavator - Small	E-143			maynor	6½
Excavator - Large					
Grade - Mass Exc. Sheepsfoot Roller					
Utility Compaction - Trench Roller					
Hydroseeder/Flush Truck/Water Truck					
MTL Skid Steer					
Off-Road Truck					
Roller - Large -Walk-behind/Ramex					
Roller - Small - Smooth Drum					
Strawblower - Small					
Strawblower - Large					
Tamper					
Track Loader					
Wheel Loader					
RENTAL					
RENTAL					

LABOR	Foreman/Operator/Laborer	Hours
Name	maynor	6½
Name	with Full crew	6½
Name		
Name		
Name		
Name		

MATERIAL	Qty	MATERIAL	Qty
		Cempatch	
		Straw-Sm Square ☐ *Lg Round* ☐	
		Moving Charge(Roll off/Trailer)	
		Mobilization (Lowboy Trailer)	

Description of Work/Misc Material

Dug Test Pit Found Force main now know where To Test Pit For casing going under 340

W.F. DELAUTER & SON, INC.

T&M TIMESHEET

JOB Greenfield Forcemain DATE 2-29-24

JOB # 0374-10-02 PHASE FCO-1

Equipment Category	WFD Code	Hammer	Rock wheel	Employee	Hours
Ag Tractor/Scraper					
Dozer - Small					
Dozer - Large					
Dump Truck					
Excavator - Small	E-143			Maynor	8
Excavator - Large					
Grade - Mass Exc. Sheepsfoot Roller					
Utility Compaction - Trench Roller					
Hydroseeder/Flush Truck/Water Truck					
MTL Skid Steer					
Off-Road Truck					
Roller - Large -Walk-behind/Ramex					
Roller - Small - Smooth Drum					
Strawblower - Small					
Strawblower - Large					
Tamper					
Track Loader					
Wheel Loader					
RENTAL					
RENTAL					

LABOR	Foreman/Operator/Laborer	Hours
Name	Maynor	8
Name	AND Full	
Name	Crew	8
Name		
Name		
Name		

MATERIAL	Qty	MATERIAL	Qty
		Cempatch	
		Straw-Sm Square ☐ *Lg Round* ☐	
		Moving Charge(Roll off/Trailer)	
		Mobilization (Lowboy Trailer)	

Description of Work/Misc Material

Digging Testpits Following Forcemain

W.F. DELAUTER & SON, INC.

T&M TIMESHEET

JOB Greenfield Forcemain DATE 3-4-24

JOB # 0374-10-02 PHASE FCO-1

Equipment Category	WFD Code	Hammer	Rock wheel	Employee	Hours
Ag Tractor/Scraper					
Dozer - Small					
Dozer - Large					
Dump Truck					
Excavator - Small	E-143			Maynor	8
Excavator - Large					
Grade - Mass Exc. Sheepsfoot Roller					
Utility Compaction - Trench Roller					
Hydroseeder/Flush Truck/Water Truck					
MTL Skid Steer					
Off-Road Truck					
Roller - Large -Walk-behind/Ramex					
Roller - Small - Smooth Drum					
Strawblower - Small					
Strawblower - Large					
Tamper					
Track Loader					
Wheel Loader					
RENTAL					
RENTAL					

LABOR	Foreman/Operator/Laborer	Hours
Name	Maynor	8
Name		
Name	Full crew	8
Name		
Name		
Name		

MATERIAL	Qty	MATERIAL	Qty
2- loads CR-6 Stone		*Cempatch*	
		Straw-Sm Square ☐ *Lg Round* ☐	
		Moving Charge(Roll off/Trailer)	
		Mobilization (Lowboy Trailer)	

Description of Work/Misc Material

Following Forcemain out into ~~Field~~ Hillside Drive
To Yellow line looking For Fitting
Also had CHS Flaggers For lane shut Down

S.W. BARRICK - BEAVER CREEK
PH (301) 739-6011
10101 Mapleville Rd.
Hagerstown, MD 21740

BC

TKT#: 177852

Cust#: DELAWF
DELAUTER, W F

3/4/2024
11:24:17AM

Job#: KINGCS KINGS CROSSING

Trk#: WFD685 W F DELAUTER

Zone#: 0 - PICKED UP
P.O.#: 14994
Proj#: [redacted]
Mat'l#: 17-CR6 Greenfield FCO
PROCTOR: 144 PCF @ 7% OM

Gross:	67880
Tare:	29100
Net:	38780
TONS:	**19.39**

	Loads	Tons
Job/Daily:	8	154.40
Job/Total:	377	7,540.52

Directions:
TERRY @ 301-748-3636

WEIGHMASTER: Alisa Svoboda

RECEIVED BY: _____

We exercise No Control Over Delivery of Our Products & We Won't be Held Liable for Any Damage to Person or Property.

Material Safety Data Information Available Upon Request.

Have A Great Day. Please Drive Safely!

10

S.W. BARRICK - BEAVER CREEK
PH (301) 739-6011
10101 Mapleville Rd.
Hagerstown, MD 21740

BC

TKT#: 177830

Cust#: DELAWF
DELAUTER, W F

3/4/2024
9:43:41AM

Job#: VARPRO VARIOUS PROJECTS
VARIOUS LOCATIONS

Trk#: WFD685 W F DELAUTER

Zone#: 0 - PICKED UP
P.O.#: GREENFIELD FCO
Proj#:
Mat'l#: 17-CR6
PROCTOR: 144 PCF @ 7% OM

Gross:	67380
Tare:	29100
Net:	38280
TONS:	**19.14**

	Loads	Tons
Job/Daily:	1	19.14
Job/Total:	3	58.52

Directions:

WEIGHMASTER: Alisa Svoboda

RECEIVED BY: _____

We exercise No Control Over Delivery of Our Products & We Won't be Held Liable for Any Damage to Person or Property.

Material Safety Data Information Available Upon Request.

Have A Great Day. Please Drive Safely!

CHS TRAFFIC CONTROL SERVICES, INC.

5397 AGRO DRIVE FREDERICK MD 21703 * PHONE 301-874-3192 FAX 301-874-3197

QUOTATION

CONTRACTOR: W.F Delauter **DATE:** February 26, 2024

PROJECT: Greenfield **WAGE RATE:** No

CONTACT: William Delauter **SCOPE:** Maintenance of Traffic

William,
Please find below our quotation for the above-listed project. Thank you for the opportunity to quote.

Sincerely,
Matt Frazier
Manager
CHS Traffic Control Services, Inc.

CHS Traffic Control Services, Inc. proposes to provide the following maintenance of traffic **at a cost of $1,050 per 8-hour shift: (shoulder closure)**

1	Certified Traffic Manager
1	Certified Helper
up to 8	Signs and Stands
up to 50	Cones
1	Pro-Bed Truck

Additional Flaggers will be provided **for $305 per 8-hour day.**

Any time over 8 hours will be considered overtime and billed **at $58.00 per hour.**

All material remains the property of CHS Traffic Control Services, Inc. Any lost, stolen, or damaged items will be invoiced at their full replacement value. Any required repairs will be performed on a time and material basis upon receipt of a change order from the Contractor.

Upon completion of a credit application, all invoices are payable 30 days from the invoice date. There will be a finance charge of 18% added to all unpaid invoices. If legal action is required to collect on an account, attorney fees will be charged.

I/ We accept this quotation as written, please proceed as authorized.

Accepted By:_____ Date:_____

CHS TRAFFIC CONTROL SERVICES, INC.

5397 AGRO DRIVE FREDERICK MD 21703 * PHONE 301-874-3192 FAX 301-874-3197

QUOTATION

CONTRACTOR: W.F Delauter **DATE:** October 25, 2023

PROJECT: Charles town Wv **WAGE RATE:** No

CONTACT: Nathan Fox **SCOPE:** Maintenance of Traffic

Nathan,
Please find below our quotation for the above-listed project. Thank you for the opportunity to quote.

Sincerely,
Matt Frazier
Manager
CHS Traffic Control Services, Inc.

CHS Traffic Control Services, Inc. proposes to provide the following maintenance of traffic **at a cost of $1,275 per 8-hour shift:**

1	Certified Traffic Manager
2	Certified Flaggers
up to 8	Signs and Stands
up to 50	Cones
1	Pro-Bed Truck

Additional Flaggers will be provided **for $296 per 8-hour day.**

Any time over 8 hours will be considered overtime and billed **at $58.00 per hour.**

CHS Traffic Control Services, Inc. proposes to provide, install, and remove upon completion of the following material **at a cost of $13,000 for the initial 1 month:**

8	Concrete Barrier Walls

Does not include crash cushions or any other materials

All material remains the property of CHS Traffic Control Services, Inc. Any lost, stolen, or damaged items will be invoiced at their full replacement value. Any required repairs will be performed on a time and material basis upon receipt of a change order from the Contractor.

Upon completion of a credit application, all invoices are payable 30 days from the invoice date. There will be a finance charge of 18% added to all unpaid invoices. If legal action is required to collect on an account, attorney fees will be charged.

I/ We accept this quotation as written, please proceed as authorized.

CHARLES TOWN UTILITY BOARD
2022 RENEWAL AND REPLACEMENT PROJECT

RESOLUTION NO. 18

RESOLUTION OF THE CITY OF CHARLES TOWN UTILITY BOARD APPROVING INVOICES RELATING TO THE CONSTRUCTION AND OTHER SERVICES FOR THE 2022 CHARLES TOWN WASTEWATER TREATMENT PLANT IMPROVEMENTS PROJECT AND AUTHORIZING PAYMENT THEREOF,

WHEREAS, the City of Charles Town Utility Board (CTUB) has reviewed the invoices attached hereto and incorporated herein by reference relation to the project:

a) That none of the items for which payment is proposed to be made has formed the basis for any disbursement theretofore made.

b) That each item for which the payment is proposed to be paid is or was necessary in connection with the Project and constitutes a cost of the project.

c) That each of such costs has been otherwise properly incurred.

d) That the payment for each of the items proposed is due and owing.

NOW, THEREFORE, BE IT RESOLVED the City of Charles Town Utility Board that the payment of the attached Contractor's Application for Payment No. 18 as summarized below, is hereby authorized and directed.

Vendor	2022B & 2022C Construction Fund	WDA Funding EEGF Grant	Total
Alvarez Contractors, Inc.	$0.00	$78,290.45	$78,290.45
Total	**$0.00**	**$78,290.45**	**$78,290.45**

ADOPTED BY the City of Charles Town Utility Board, at the meeting held on the 10th day of April, 2024.

By: _____
John Nissel, Chairman

EJCDC
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

Contractor's Application for Payment No. 18

To (Owner): CHARLES TOWN UTILITY BOARD	Application Period: 3/01/24-3/31/24	Application Date: 3/31/2024
Project: CHARLES TOWN WASTEWATER TREATMENT PLANT IMPROVEMENTS PROJECT	From (Contractor): ALVAREZ CONTRACTORS, INC.	Via (Engineer): GWIN, DOBSON & FOREMAN INC.
Owner's Contract No.:	Contract: CONTRACT #1	
	Contractor's Project No.:	Engineer's Project No.:

Application For Payment

Change Order Summary

Approved Change Orders

Number	Additions	Deductions
CO 1	$498,183.42	
CO 2	$41,179.57	
CO 3	$90,351.00	
TOTALS	$629,713.99	
NET CHANGE BY CHANGE ORDERS	**$629,713.99**	

1. ORIGINAL CONTRACT PRICE	$	$10,151,000.00
2. Net change by Change Orders	$	$629,713.99
3. Current Contract Price (Line 1 ± 2)	$	$10,780,713.99
4. TOTAL COMPLETED AND STORED TO DATE (Column F total on Progress Estimates)	$	$7,777,993.06
5. RETAINAGE:		
a. 5% X $7,472,811.26 Work Completed	$	$373,640.56
b. 5% X $305,181.80 Stored Material	$	$15,259.09
c. Total Retainage (Line 5.a + Line 5.b)	$	$388,899.65
6. AMOUNT ELIGIBLE TO DATE (Line 4 - Line 5.c)	$	$7,389,093.41
7. LESS PREVIOUS PAYMENTS (Line 6 from prior Application)	$	$7,310,802.96
8. AMOUNT DUE THIS APPLICATION	$	$78,290.45
9. BALANCE TO FINISH, PLUS RETAINAGE (Column G total on Progress Estimates + Line 5.c above)	$	$3,391,620.58

Contractor's Certification

The undersigned Contractor certifies, to the best of its knowledge, the following:
(1) All previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with the Work covered by prior Applications for Payment;
(2) Title to all Work, materials and equipment incorporated in said Work, or otherwise listed in or covered by this Application for Payment, will pass to Owner at time of payment free and clear of all Liens, security interests, and encumbrances (except such as are covered by a bond acceptable to Owner indemnifying Owner against any such Liens, security interest, or encumbrances); and
(3) All the Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

Contractor Signature

By:	Date: 3/31/2024

Payment of: $ $78,290.45
(Line 8 or other - attach explanation of the other amount)

is recommended by: _____ _____
(Engineer) (Date)

Payment of: $ $78,290.45
(Line 8 or other - attach explanation of the other amount)

is approved by: _____ _____
(Owner) (Date)

Approved by: _____ _____
Funding or Financing Entity (if applicable) (Date)

Progress Estimate - Lump Sum Work

Contractor's Application

For (Contract):	CHARLES TOWN WASTEWATER TREATMENT PLANT IMPROVEMENTS PROJECT	Application Number:	18
Application Period:	3/01/24-3/31/24	Application Date:	3/31/2024

			Work Completed		E	F		G
A		B	C	D				
Schedule of Values Item No.	Description	Scheduled Value ($)	From Previous Application (C+D)	This Period	Materials Presently Stored (not in C or D)	Total Completed and Stored to Date (C + D + E)	% (F / B)	Balance to Finish (B - F)
1	D1 - Moblization/Demob.	$20,000.00	$20,000.00	$0.00	$0.00	$20,000.00	100.0%	$0.00
2	D1 - Bonds/Insurance	$178,000.00	$178,000.00	$0.00	$0.00	$178,000.00	100.0%	$0.00
3	D1 - Video Taping	$4,500.00	$4,500.00	$0.00	$0.00	$4,500.00	100.0%	$0.00
4	D1 - Field Office	$18,000.00	$14,040.00	$540.00	$0.00	$14,580.00	81.0%	$3,420.00
5	D1 - QC Testing (Cash Allowance)	$50,000.00	$17,000.00	$0.00	$0.00	$17,000.00	34.0%	$33,000.00
6	D1 - Submittals/Shop Drawings by ACI	$40,000.00	$38,000.00	$0.00	$0.00	$38,000.00	95.0%	$2,000.00
	DIVISION 2 - SITE WORK							
7	D2 - Sediment & Erosion Control	$20,200.00	$17,776.00	$0.00	$0.00	$17,776.00	88.0%	$2,424.00
	SITE DEMOLITION							
8	D2 - Concrete Pads	$4,100.00	$205.00	$0.00	$0.00	$205.00	5.0%	$3,895.00
9	D2 - Remove all Ex. Underground Lines at Centrifuge Bldg. Site	$32,900.00	$29,610.00	$0.00	$0.00	$29,610.00	90.0%	$3,290.00
10	D2 - Remove all Ex. Underground Lines at Electrical Bldg. Site	$12,400.00	$12,400.00	$0.00	$0.00	$12,400.00	100.0%	$0.00
11	D2 - Remove Portions of Underground Lines at Ex. Press Bldg.	$4,200.00	$210.00	$0.00	$0.00	$210.00	5.0%	$3,990.00
	STRUCTURES & BUILDING DEMOLITION							
12	D2 - Headworks Building	$40,200.00	$40,200.00	$0.00	$0.00	$40,200.00	100.0%	$0.00
13	D2 - Influent Pump Station & Bypass Pump Set Up	$97,500.00	$97,500.00	$0.00	$0.00	$97,500.00	100.0%	$0.00
14	D2 - UV Equipment	$18,300.00	$16,470.00	$0.00	$0.00	$16,470.00	90.0%	$1,830.00
15	D2 - Plant Drain Pump Station	$14,800.00				$0.00		$14,800.00
16	D2 - Electrical Building by ACI	$7,900.00				$0.00		$7,900.00
17	D2 - Sludge Day Tank & Pump Building	$97,800.00	$97,800.00	$0.00	$0.00	$97,800.00	100.0%	$0.00
18	D2 - Digester Blower Building	$32,500.00	$32,500.00	$0.00	$0.00	$32,500.00	100.0%	$0.00
19	D2 - Sludge Transfer Pump Building	$3,200.00				$0.00		$3,200.00
20	D2 - Digester Tank	$8,200.00	$8,200.00	$0.00	$0.00	$8,200.00	100.0%	$0.00
21	D2 - SBR	$1,600.00				$0.00		$1,600.00
	EXCAVATION (MAJOR STRUCTURES)							
22	D2 - Centrifuge Building	$38,900.00	$38,900.00	$0.00	$0.00	$38,900.00	100.0%	$0.00
23	D2 - Electrical Building by ACI	$7,800.00	$7,800.00	$0.00	$0.00	$7,800.00	100.0%	$0.00
24	D2 - Blower Pad	$5,100.00	$5,100.00	$0.00	$0.00	$5,100.00	100.0%	$0.00
25	D2 - Generator Pad	$5,200.00	$5,200.00	$0.00	$0.00	$5,200.00	100.0%	$0.00
	BACKFILL (MAJOR STRUCTURES)							
26	D2 - Centrifuge Building	$42,300.00	$38,070.00	$0.00	$0.00	$38,070.00	90.0%	$4,230.00
	STRUCTURAL STONE							
27	D2 - Centrifuge Building	$13,400.00	$13,400.00	$0.00	$0.00	$13,400.00	100.0%	$0.00
28	D2 - Electrical Building	$5,600.00	$5,600.00	$0.00	$0.00	$5,600.00	100.0%	$0.00
29	D2 - FRP Building	$2,000.00	$2,000.00	$0.00	$0.00	$2,000.00	100.0%	$0.00
30	D2 - Generator Pad	$1,500.00	$1,500.00	$0.00	$0.00	$1,500.00	100.0%	$0.00
31	D2 - Blower Pad	$1,500.00	$1,500.00	$0.00	$0.00	$1,500.00	100.0%	$0.00
	YARD PIPING							

Progress Estimate - Lump Sum Work

Contractor's Application

For (Contract):	CHARLES TOWN WASTEWATER TREATMENT PLANT IMPROVEMENTS PROJECT	Application Number:	18
Application Period:	3/01/24-3/31/24	Application Date:	3/31/2024

			Work Completed		E	F		G
A		B	C	D				
Schedule of Values Item No.	Description	Scheduled Value ($)	From Previous Application (C+D)	This Period	Materials Presently Stored (not in C or D)	Total Completed and Stored to Date (C + D + E)	% (F / B)	Balance to Finish (B - F)
32	D2 - 2" Sch 80 PVC Water Service to Headworks Bldg.	$9,900.00	$9,900.00	$0.00	$0.00	$9,900.00	100.0%	$0.00
33	D2 - 2" Sch 80 PVC Water Service to Centrifuge Bldg.	$25,100.00	$25,100.00	$0.00	$0.00	$25,100.00	100.0%	$0.00
34	D2 - 4" DIP WAS Line from Centrifuge Bldg. to Sanitary Sewer	$16,600.00	$16,600.00	$0.00	$0.00	$16,600.00	100.0%	$0.00
35	D2 - 4" DIP WAS Inlet to Centrifuge Bldg.	$17,400.00	$12,180.00	$0.00	$0.00	$12,180.00	70.0%	$5,220.00
36	D2 - 4" DIP Sludge Drain Off Line from Digester	$16,800.00	$16,800.00	$0.00	$0.00	$16,800.00	100.0%	$0.00
37	D2 - 4" DIP WAS Line from Centrifuge Bldg. to Digester	$16,700.00	$0.00	$0.00	$2,000.00	$2,000.00	12.0%	$14,700.00
38	D2 - 6" PVC Drain from Centrifuge Bldg. to Manhole	$16,500.00	$16,500.00	$0.00	$0.00	$16,500.00	100.0%	$0.00
39	D2 - 4" PVC Drain from Centrifuge Bldg. to Manhole	$15,200.00	$15,200.00	$0.00	$0.00	$15,200.00	100.0%	$0.00
40	D2 - 6" DIP Existing System Connection to New T-Valve	$16,700.00	$16,700.00	$0.00	$0.00	$16,700.00	100.0%	$0.00
41	D2 - 8" PVC Drain Line Under Centrifuge Bldg.	$13,500.00				$0.00		$13,500.00
42	D2 - 24" & 12" HDPE Storm Drain at Centrifuge Bldg.	$58,000.00	$46,400.00	$0.00	$0.00	$46,400.00	80.0%	$11,600.00
43	D2 - 18" HDPE Storm Drain at Electrical Bldg.	$39,000.00	$33,150.00	$0.00	$0.00	$33,150.00	85.0%	$5,850.00
44	D2 - 10" Stainless Steel Air Line to Digester	$10,900.00	$10,900.00	$0.00	$0.00	$10,900.00	100.0%	$0.00
	YARD STRUCTURES							
45	D2 - 4' Dia. Precast Drain Line Manhole	$3,400.00				$0.00		$3,400.00
46	D2 - Type G Precast Drop Inlet	$9,200.00	$9,200.00	$0.00	$0.00	$9,200.00	100.0%	$0.00
	FINAL RECLAMATION							
47	D2 - Asphalt Paving	$98,800.00				$0.00		$98,800.00
48	D2 - Final Grading, Seed & Mulch	$5,700.00	$1,140.00	$0.00	$0.00	$1,140.00	20.0%	$4,560.00
	DIVISION 3 - CONCRETE							
	SITE CONCRETE							
49	D3 - Generator Pad	$10,100.00	$10,100.00	$0.00	$0.00	$10,100.00	100.0%	$0.00
50	D3 - FRP Shelter Pad	$9,400.00	$9,400.00	$0.00	$0.00	$9,400.00	100.0%	$0.00
51	D3 - Digester Blower Pad	$28,200.00	$23,970.00	$0.00	$0.00	$23,970.00	85.0%	$4,230.00
52	D3 - Digester Equipment Pads	$24,900.00	$24,900.00	$0.00	$0.00	$24,900.00	100.0%	$0.00
53	D3 - Sidewalks at Blower Bldg. Area	$10,700.00				$0.00		$10,700.00
54	D3 - Sidewalks at Covered Sludge Storage Area	$11,400.00				$0.00		$11,400.00
	ELECTRICAL BLDG.							
55	D3 - Grade Beams	$38,300.00	$38,300.00	$0.00	$0.00	$38,300.00	100.0%	$0.00
56	D3 - Concrete Pads/SOG	$18,100.00	$18,100.00	$0.00	$0.00	$18,100.00	100.0%	$0.00
57	D3 - Door Stoops/Pads	$12,000.00				$0.00		$12,000.00
58	D3 - Exterior SOG/Sidewalks	$15,400.00				$0.00		$15,400.00
59	D3 - Misc. Equipment Pads	$3,000.00	$3,000.00	$0.00	$0.00	$3,000.00	100.0%	$0.00
	COVERED SLUDGE STORAGE AREA & CENTRIFUGE BLDG.							
60	D3 - Footings, Grade Beams & Walls	$162,000.00	$162,000.00	$0.00	$0.00	$162,000.00	100.0%	$0.00
61	D3 - Thickened SOG at Trench Drains	$22,200.00	$22,200.00	$0.00	$0.00	$22,200.00	100.0%	$0.00
62	D3 - 6" SOG at 2 - Areas	$49,700.00	$49,700.00	$0.00	$0.00	$49,700.00	100.0%	$0.00
63	D3 - Equipment Pads, Containment Curbs & Walls	$15,400.00	$15,400.00	$0.00	$0.00	$15,400.00	100.0%	$0.00

Progress Estimate - Lump Sum Work

Contractor's Application

For (Contract):	CHARLES TOWN WASTEWATER TREATMENT PLANT IMPROVEMENTS PROJECT	Application Number:	18
Application Period:	3/01/24-3/31/24	Application Date:	3/31/2024

			Work Completed		E	F		G
A		B	C	D				
Schedule of Values Item No.	Description	Scheduled Value ($)	From Previous Application (C+D)	This Period	Materials Presently Stored (not in C or D)	Total Completed and Stored to Date (C + D + E)	% (F / B)	Balance to Finish (B - F)
64	D3 - Door/Stoop	$8,100.00				$0.00		$8,100.00
	DIGESTER BLDG. & TANK							
65	D3 - Equipment Pads	$4,400.00	$4,400.00	$0.00	$0.00	$4,400.00	100.0%	$0.00
	DIVISION 4 - MASONRY							
	CENTRIFUGE BUILDING							
66	D4 - 12" Standard CMU's	$53,000.00	$53,000.00	$0.00	$0.00	$53,000.00	100.0%	$0.00
	DIVISION 5 - MISC. METALS							
	SITE							
67	D5 - Permanent Bollards	$7,200.00	$4,320.00	$0.00	$0.00	$4,320.00	60.0%	$2,880.00
68	D5 - Removable Bollards	$12,300.00	$9,225.00	$0.00	$0.00	$9,225.00	75.0%	$3,075.00
	ELECTRICAL BLDG.							
69	D5 - Partition Walls	$69,200.00	$69,200.00	$0.00	$0.00	$69,200.00	100.0%	$0.00
70	D5 - Roof/Ceiling Framing	$35,000.00	$35,000.00	$0.00	$0.00	$35,000.00	100.0%	$0.00
	CENTRIFUGE BUILDING							
71	D5 - W8 x 28 Steel Lintel	$1,800.00	$1,800.00	$0.00	$0.00	$1,800.00	100.0%	$0.00
72	D5 - Monorail Framing	$11,100.00	$11,100.00	$0.00	$0.00	$11,100.00	100.0%	$0.00
73	D5 - Covered Storage Framing	$12,900.00	$12,900.00	$0.00	$0.00	$12,900.00	100.0%	$0.00
74	D5 - Steel Erection	$25,500.00	$25,500.00	$0.00	$0.00	$25,500.00	100.0%	$0.00
75	D5 - Stainless Steel Polymer Fill Station	$4,600.00	$3,680.00	$0.00	$0.00	$3,680.00	80.0%	$920.00
	DIVISION 6 - WOOD AND PLASTICS							
	CENTRIFUGE BUILDING							
76	D6 - Wood Trusses & Sheathing	$69,500.00	$69,500.00	$0.00	$0.00	$69,500.00	100.0%	$0.00
77	D6 - Wood Framing & Interior Finishes	$53,700.00	$26,850.00	$0.00	$0.00	$26,850.00	50.0%	$26,850.00
78	D6 - FRP Grating & Ladders	$11,700.00	$7,020.00	$4,680.00	$0.00	$11,700.00	100.0%	$0.00
	ELECTRICAL SHELTER							
79	D6 - FRP Shelter Building	$48,600.00	$48,600.00	$0.00	$0.00	$48,600.00	100.0%	$0.00
	DIVISION 7 - THERMAL & MOISTURE PROTECTION							
	ELECTRICAL BLDG.							
80	D7 - SSR Roofing & Soffit	$105,900.00	$100,605.00	$0.00	$0.00	$100,605.00	95.0%	$5,295.00
	CENTRIFUGE BUILDING							
81	D7 - SSR Roofing & Soffit	$107,200.00	$107,200.00	$0.00	$0.00	$107,200.00	100.0%	$0.00
82	D7 - Corefill Insulation	$2,900.00	$2,900.00	$0.00	$0.00	$2,900.00	100.0%	$0.00
83	D7 - EIFS Outsulation	$39,300.00	$37,335.00	$0.00	$0.00	$37,335.00	95.0%	$1,965.00
	DIVISION 8 - DOORS & WINDOWS							
	ELECTRICAL BLDG.							
84	D8 - Hollow Metal Doors, Frames & Hardware	$25,500.00	$17,085.00	$0.00	$0.00	$17,085.00	67.0%	$8,415.00
	CENTRIFUGE BUILDING							
85	D8 - FRP Door & Window	$16,800.00				$0.00		$16,800.00

Progress Estimate - Lump Sum Work

Contractor's Application

For (Contract): CHARLES TOWN WASTEWATER TREATMENT PLANT IMPROVEMENTS PROJECT	Application Number: 18
Application Period: 3/01/24-3/31/24	Application Date: 3/31/2024

			Work Completed		E	F		G
A		B	C	D				
Schedule of Values Item No.	Description	Scheduled Value ($)	From Previous Application (C+D)	This Period	Materials Presently Stored (not in C or D)	Total Completed and Stored to Date (C + D + E)	% (F / B)	Balance to Finish (B - F)
86	D8 - Overhead Door (10'x12')	$16,200.00	$13,770.00	$0.00	$0.00	$13,770.00	85.0%	$2,430.00
87	D8 - Fixed Window	$3,800.00				$0.00		$3,800.00
	DIVISION 9 - FINISHES							
	ELECTRICAL BLDG.							
88	D9 - ACT Ceiling	$38,900.00	$19,450.00	$0.00	$0.00	$19,450.00	50.0%	$19,450.00
89	D9 - Paint Walls, Floors & Doors	$11,000.00	$5,500.00	$0.00	$0.00	$5,500.00	50.0%	$5,500.00
	CENTRIFUGE BUILDING							
90	D9 - Paint Walls, Floors & Doors	$31,000.00	$18,600.00	$0.00	$0.00	$18,600.00	60.0%	$12,400.00
91	D9 - Chemical Containment	$6,500.00	$6,500.00	$0.00	$0.00	$6,500.00	100.0%	$0.00
92	D9 - Piping	$5,700.00	$5,130.00	$0.00	$0.00	$5,130.00	90.0%	$570.00
	DIVISION 10 - SPECIALTIES							
93	D10 - Fire Extinguishers	$400.00				$0.00		$400.00
94	D10 - Project Signs	$6,700.00				$0.00		$6,700.00
	DIVISION 11 - EQUIPMENT							
	SITE							
95	D11 - Influent Pump Station - Submersible Pumps	$189,200.00	$18,920.00	$0.00	$140,566.30	$159,486.30	84.3%	$29,713.70
96	D11 - Plant Drain Pump Station Submersible Pumps	$89,400.00	$8,940.00	$0.00	$60,242.70	$69,182.70	77.4%	$20,217.30
	CENTRIFUGE BUILDING							
97	D11 - Centrifuge System	$619,200.00	$557,280.00	$0.00	$0.00	$557,280.00	90.0%	$61,920.00
98	D11 - Digester Sludge Pump	$30,000.00	$28,500.00	$0.00	$0.00	$28,500.00	95.0%	$1,500.00
99	D11 - Inline Grinder	$34,500.00	$32,775.00	$0.00	$0.00	$32,775.00	95.0%	$1,725.00
100	D11 - Polymer Feed System	$32,900.00	$31,255.00	$0.00	$0.00	$31,255.00	95.0%	$1,645.00
101	D11 - Polymer Bulk Tank	$7,800.00	$6,240.00	$780.00	$0.00	$7,020.00	90.0%	$780.00
	UV BUILDING							
102	D11 - UV System with Controls	$303,900.00	$303,900.00	$0.00	$0.00	$303,900.00	100.0%	$0.00
	HEADWORKS BUILDING							
103	D11 - Mechanical Bar Screen w/Controls	$159,000.00	$159,000.00	$0.00	$0.00	$159,000.00	100.0%	$0.00
104	D11 - Washer/Compactor w/Controls	$85,600.00	$85,600.00	$0.00	$0.00	$85,600.00	100.0%	$0.00
105	D11 - Grit Removal System w/Controls	$262,000.00	$262,000.00	$0.00	$0.00	$262,000.00	100.0%	$0.00
	EXISTING DIGESTER							
106	D11 - Digester Aeration & Mixing System w/Controls	$670,000.00	$636,500.00	$0.00	$0.00	$636,500.00	95.0%	$33,500.00
	EXISTING SBR TANKS							
107	D11 - MCP w/ PLC & Instrumentation	$274,800.00	$68,700.00	$0.00	$0.00	$68,700.00	25.0%	$206,100.00
	DIVISION 13 - SPECIAL CONSTRUCTION							
	SCADA / INTEGRATION							
108	D13 - SCADA, Control Panels, MCC, Field Instrumentation	$765,000.00	$76,500.00	$0.00	$80,264.00	$156,764.00	20.5%	$608,236.00
	DIVISION 14 - CONVEYING SYSTEMS							
	CENTRIFUGE BUILDING							

Progress Estimate - Lump Sum Work

Contractor's Application

For (Contract):	CHARLES TOWN WASTEWATER TREATMENT PLANT IMPROVEMENTS PROJECT	Application Number:	18
Application Period:	3/01/24-3/31/24	Application Date:	3/31/2024

			Work Completed		E	F		G
A		B	C	D				
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109	D14 - Hoist & Monorail	$27,700.00				$0.00		$27,700.00
	HEADWORKS BUILDING							
110	D14 - Screw Conveyor	$70,200.00	$66,690.00	$0.00	$0.00	$66,690.00	95.0%	$3,510.00
	DIVISION 15 - MECHANICAL							
	PROCESS PIPING							
111	D15 - Influent PS - DI Pipe, Fittings, Valves & Sch 40 Stilling Well	$49,000.00	$0.00	$0.00	$16,935.80	$16,935.80	34.6%	$32,064.20
112	D15 - Effluent PS- Sch 40 Stilling Well	$3,900.00				$0.00		$3,900.00
113	D15 - Plant Drain PS - DI Pipe, Fittings, Valves & Sch 40 Stilling Well	$19,500.00	$0.00	$0.00	$4,488.80	$4,488.80	23.0%	$15,011.20
114	D15 - Plan Drain PS - New Top Slab w/Hatch & Vent Pipe	$5,000.00				$0.00		$5,000.00
115	D15 - Plant Drain PS - Portable Hoist w/Socket	$3,000.00				$0.00		$3,000.00
116	D15 - Electrical Bldg- 12" Lug Style BF Valve w/SS Flange Spool	$10,700.00				$0.00		$10,700.00
117	D15 - Centrifuge Bldg. - DI Pipe, Fittings & Valves	$86,800.00	$86,800.00	$0.00	$0.00	$86,800.00	100.0%	$0.00
118	D15 - Centrifuge Bldg. - Sch 80 PVC Polymer Feed System	$27,100.00	$25,745.00	$0.00	$0.00	$25,745.00	95.0%	$1,355.00
119	D15 - Sludge Transfer Pump Bldg - DI Pipe, Fittings & Valves	$5,700.00	$0.00	$0.00	$684.20	$684.20	12.0%	$5,015.80
120	D15 - Headworks Bldg. - DI Pipe, Fittings & Valves	$47,200.00	$47,200.00	$0.00	$0.00	$47,200.00	100.0%	$0.00
121	D15 - Headworks Bldg. - Sch 80 PVC Drains	$9,000.00	$9,000.00	$0.00	$0.00	$9,000.00	100.0%	$0.00
122	D15 - Ex. Digester Bldg. Mixing Sys. Air Comp. Room - 2" SS Air Pipe	$11,600.00	$11,600.00	$0.00	$0.00	$11,600.00	100.0%	$0.00
123	D15 - Ex. Digester Bldg. Mixing Sys. Air Comp. Room - 2" Sch 40 PV	$3,200.00	$3,200.00	$0.00	$0.00	$3,200.00	100.0%	$0.00
124	D15 - Ex. Digester Tank - 6" DI Pipe & Fittings w/Elec. Actuated T-Va	$43,000.00	$43,000.00	$0.00	$0.00	$43,000.00	100.0%	$0.00
125	D15 - Ex. Digester Tank - 10" SS Pipe & Valve Air Supply Line to Mar	$19,500.00	$19,500.00	$0.00	$0.00	$19,500.00	100.0%	$0.00
126	D15 - Ex. Digester Tank - Pipe Penetrations to Tank by Mack Ind.	$15,700.00	$15,700.00	$0.00	$0.00	$15,700.00	100.0%	$0.00
127	D15 - Digester Blower Pad - 10" & 8" SS Pipe, Fittings & Valves	$15,800.00	$15,800.00	$0.00	$0.00	$15,800.00	100.0%	$0.00
128	D15 - SBR Tanks - Install Process Sensors & Instrumentation	$12,000.00				$0.00		$12,000.00
	PLUMBING							
129	D15 - Headworks Bldg. - Sch 80 PVC Water Pipe, Fittings, Valves, BF	$35,800.00	$35,800.00	$0.00	$0.00	$35,800.00	100.0%	$0.00
130	D15 - Centrifuge Bldg. - Sch 80 PVC Water Pipe, Fittings, Valves, BFF	$46,200.00	$46,200.00	$0.00	$0.00	$46,200.00	100.0%	$0.00
131	D15 - Centrifuge Bldg. - Sch 80 PVC Drain Pipe, Fittings, Floor Drains	$16,700.00	$16,700.00	$0.00	$0.00	$16,700.00	100.0%	$0.00
132	D15 - Centrifuge Bldg. - Plumbing Fixtures & Eyewash/Shower	$32,800.00	$32,800.00	$0.00	$0.00	$32,800.00	100.0%	$0.00
	HVAC							
133	D15 - Electrical Bldg. - Split System HVAC Unit	$22,600.00	$0.00	$20,340.00	$0.00	$20,340.00	90.0%	$2,260.00
134	D15 - Centrifuge Bldg. - Exhaust Fans, Louvers, Unit Heaters	$29,900.00	$0.00	$25,415.00	$0.00	$25,415.00	85.0%	$4,485.00
	DIVISION 16 - ELECTRICAL							
	ELECTRICAL WORK BY S&S ELECTRIC							
135	D16 - Electrical Demolition	$163,500.00	$129,165.00	$3,270.00	$0.00	$132,435.00	81.0%	$31,065.00
136	D16 - Lighting - Material	$11,300.00	$11,300.00	$0.00	$0.00	$11,300.00	100.0%	$0.00
137	D16 - Lighting - Labor	$8,900.00				$0.00		$8,900.00
138	D16 - Gear - Material	$278,300.00	$225,423.00	$0.00	$0.00	$225,423.00	81.0%	$52,877.00
139	D16 - Gear - Labor	$60,900.00	$36,540.00	$0.00	$0.00	$36,540.00	60.0%	$24,360.00

Progress Estimate - Lump Sum Work

Contractor's Application

For (Contract):	CHARLES TOWN WASTEWATER TREATMENT PLANT IMPROVEMENTS PROJECT	Application Number:	18
Application Period:	3/01/24-3/31/24	Application Date:	3/31/2024

			Work Completed		E	F		G
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140	D16 - Emergency Generator - Material	$382,500.00	$286,875.00	$0.00	$0.00	$286,875.00	75.0%	$95,625.00
141	D16 - Emergency Generator - Labor	$22,700.00	$11,350.00	$0.00	$0.00	$11,350.00	50.0%	$11,350.00
142	D16 - Devices - Material	$5,600.00	$1,680.00	$0.00	$0.00	$1,680.00	30.0%	$3,920.00
143	D16 - Devices - Labor	$7,300.00	$2,190.00	$0.00	$0.00	$2,190.00	30.0%	$5,110.00
144	D16 - Boxes/Troughs - Material	$101,900.00	$81,520.00	$0.00	$0.00	$81,520.00	80.0%	$20,380.00
145	D16 - Boxes/Troughs - Labor	$59,900.00	$35,940.00	$1,198.00	$0.00	$37,138.00	62.0%	$22,762.00
146	D16 - SCADA Equipment Install - Labor	$25,800.00				$0.00		$25,800.00
147	D16 - Conduit - Material	$380,500.00	$304,400.00	$0.00	$0.00	$304,400.00	80.0%	$76,100.00
148	D16 - Conduit - Labor	$634,000.00	$412,100.00	$12,680.00	$0.00	$424,780.00	67.0%	$209,220.00
149	D16 - Cable - Material	$487,600.00	$73,140.00	$0.00	$0.00	$73,140.00	15.0%	$414,460.00
150	D16 - Cable - Labor	$358,000.00	$53,700.00	$0.00	$0.00	$53,700.00	15.0%	$304,300.00
151	D16 - Grounding - Material	$12,000.00	$3,600.00	$0.00	$0.00	$3,600.00	30.0%	$8,400.00
152	D16 - Grounding - Labor	$20,700.00	$5,796.00	$0.00	$0.00	$5,796.00	28.0%	$14,904.00
153	D16 - Temporary Electric	$53,500.00	$44,405.00	$0.00	$0.00	$44,405.00	83.0%	$9,095.00
	BID ALTERNATE A - INFLUENT METERING VAULT							
154	Bonds & Insurance	$2,800.00	$2,800.00	$0.00	$0.00	$2,800.00	100.0%	$0.00
155	Demolition	$14,000.00	$14,000.00	$0.00	$0.00	$14,000.00	100.0%	$0.00
156	Excavation & Backfill	$7,600.00	$7,600.00	$0.00	$0.00	$7,600.00	100.0%	$0.00
157	Precast Concrete Vault	$23,000.00	$23,000.00	$0.00	$0.00	$23,000.00	100.0%	$0.00
158	Piping, Fittings, Valves & Supports	$45,000.00	$45,000.00	$0.00	$0.00	$45,000.00	100.0%	$0.00
159	16" Mag Meter	$14,600.00	$13,140.00	$0.00	$0.00	$13,140.00	90.0%	$1,460.00
160	Electrical Material	$16,000.00	$1,600.00	$0.00	$0.00	$1,600.00	10.0%	$14,400.00
161	Electrical Labor	$29,000.00				$0.00		$29,000.00
	BID ALTERNATE B - WAS METERING VAULT							
162	Bonds & Insurance	$4,400.00	$4,400.00	$0.00	$0.00	$4,400.00	100.0%	$0.00
163	Demolition	$14,700.00				$0.00		$14,700.00
164	Excavation & Backfill	$10,200.00	$7,650.00	$0.00	$0.00	$7,650.00	75.0%	$2,550.00
165	Precast Concrete Vault	$21,000.00	$21,000.00	$0.00	$0.00	$21,000.00	100.0%	$0.00
166	Piping, Fittings, Valves & Supports	$65,600.00	$65,600.00	$0.00	$0.00	$65,600.00	100.0%	$0.00
167	Flow Meters	$17,100.00	$15,390.00	$0.00	$0.00	$15,390.00	90.0%	$1,710.00
168	Misc. Metals	$23,000.00	$0.00	$16,100.00	$0.00	$16,100.00	70.0%	$6,900.00
169	Electrical Material	$33,000.00	$6,600.00	$0.00	$0.00	$6,600.00	20.0%	$26,400.00
170	Electrical Labor	$46,000.00	$4,600.00	$0.00	$0.00	$4,600.00	10.0%	$41,400.00
	CHANGE ORDER #1							
171	CHANGE ORDER #1	$498,183.42	$498,183.42	$0.00	$0.00	$498,183.42	100.0%	$0.00
172	CHANGE ORDER #2	$41,179.57	$41,179.57	$0.00	$0.00	$41,179.57	100.0%	$0.00
173	CHANGE ORDER #3	$90,351.00	$74,991.27	$3,614.00	$0.00	$78,605.27	87.0%	$11,745.73
	SubTotal	**$10,780,713.99**	**$7,384,194.26**	**$88,617.00**	**$305,181.80**	**$7,777,993.06**	**72.1%**	**$3,002,720.93**

Stored Material Summary

Contractor's Application

For (Contract):	CHARLES TOWN WASTEWATER TREATMENT PLANT IMPROVEMENTS PROJECT							Application Number:	17		
Application Period:	2/01/24-2/29/24							Application Date:	2/29/2024		
A		B	C		D		E		F		G
					Stored Previously				Incorporated in Work		
Bid Item No.	Supplier Invoice No.	Submittal No. (with Specification Section	Storage Location	Description of Materials or Equipment Stored	Date Placed into Storage (Month/Year)	Amount ($)	Amount Stored this Month ($)	Subtotal Amount Completed and Stored to Date (D + E)	Date (Month/ Year)	Amount ($)	Materials Remaining in Storage ($) (D + E - F)
34, 37, 42, 158, 166	S100204638.001		Inwood shop	CITCO Water - Piping, Valves, Fittings for Yard Piping & Bid Alternates	1/2023	$16,302.08		$16,302.08	9/2023	$11,193.08	$5,109.00
111, 113, 117, 119, 158, 166	S100198279.001		Inwood shop	CITCO Water - Piping, Valves, Fittings for Mechanical Piping & Bid Alternates	1/2023	$33,962.32		$33,962.32	12/2023	$22,172.47	$11,789.85
136	3624349		onsite	Scott Electric - lighting	1/2023	$3,299.00		$3,299.00	3/2023	$3,299.00	
42	S100204638.002		Inwood shop	CITCO Water - Piping, Valves, Fittings for Yard Piping	1/2023	$5,281.95		$5,281.95	9/2023	$5,281.95	
158	S100198279.002		Inwood shop	CITCO Water - Piping, Valves, Fittings for Bid Alternate A	1/2023	$7,075.75		$7,075.75	10/2023	$7,075.75	
138	S6606924.005, S6606924.003		onsite	Schaedler yesco electrical material for gear	2/2023	$2,481.00		$2,481.00	3/2023	$2,481.00	
13	21073974		Inwood shop	ISCO Industries Piping for Bypass pump	2/2023	$6,795.23		$6,795.23	3/2023	$6,795.23	
43	S100207506.001		Inwood shop	CITCO Water - Nyloplast Drain Basins	2/2023	$14,097.00		$14,097.00	4/2023	$14,097.00	
171	483242		Inwood shop	Skyline Steel - H-Piles	3/2023	$62,060.00		$62,060.00	4/2023	$62,060.00	
106	6183.03-.05		Inwood shop	Enviromix, Inc. - Digester Aeration & Mixing Sys w/Controls	3/2023	$259,425.00		$259,425.00	9/2023	$259,425.00	
157,165	MIVC0029470		Inwood shop	Mack Industries - PS Meter Vault, WAS Valve Vault	4/2023	$33,815.00		$33,815.00	12/2023	$33,815.00	
102	902090889		Inwood shop	Veolia UV System	4/2023	$237,600.00		$237,600.00	10/2023	$237,600.00	
117	S100211394.001		Inwood shop	CITCO Water - Process Piping for Centrifuge Bldg	4/2023	$5,774.80		$5,774.80	12/2023	$5,774.80	
117	S100209868.002		Inwood shop	CITCO Water - Process Piping for Centrifuge Bldg	4/2023	$4,582.50		$4,582.50	12/2023	$4,582.50	
117	S100198279.004		Inwood shop	CITCO Water - Process Piping for Centrifuge Bldg	4/2023	$3,386.75		$3,386.75	12/2023	$3,386.75	
111,120	S100209822.004		Inwood shop	CITCO Water - Process Piping for HW Bldg & Inf PS	4/2023	$11,549.36		$11,549.36	7/2023	$4,339.41	$7,209.95
33	S100213814.001		Inwood shop	CITCO Water - Yard Piping for Water Svc to Centrifuge Bldg	4/2023	$5,871.20		$5,871.20	8/2023	$5,871.20	
158	S100211150.003		Inwood shop	CITCO Water - Piping for Bid Alternate A - Inf. Metering Vault	4/2023	$5,581.64		$5,581.64	9/2023	$5,581.64	
105	9865-1, 9865-2		Inwood shop	Envirodyne Systems Inc. - Grit Removal System	4/2023	$70,462.00		$70,462.00	7/2023	$70,462.00	
13	0134274-IN		Inwood shop	Precision Pump & Valve - Pumps for bypass	4/2023	$32,204.00		$32,204.00	5/2023	$32,204.00	
103,104	93254		Inwood shop	Zima Corporation - Bar Screen, Washer/Compactor	4/2023	$165,750.30		$165,750.30	7/2023	$165,750.30	
108	220802-1		Inwood shop	Micro-Tech Designs, Inc. - SCADA equipment	4/2023	$36,698.00		$36,698.00			$36,698.00
106	6183.06		Inwood shop	Enviromix, Inc. - Diffusers, Aeration piping, pipes/supports	5/2023	$77,827.50		$77,827.50	9/2023	$77,827.50	
125,127	683		Inwood shop	B.A. Martin Welding - SS Piping for Digester	5/2023	$18,779.95		$18,779.95	10/2023	$18,779.95	
71-75	1457		Inwood shop	Southern Steel Products Company - Misc. Metals for Cent. Bldg	5/2023	$38,450.00		$38,450.00	2/2024	$38,450.00	
95-96	9261		Inwood shop	Pumpman Pittsburgh - Submersible Pumps	5/2023	$200,809.00		$200,809.00			$200,809.00
105	9865-3		Inwood shop	Envirodyne Systems Inc. - Grit Removal System	6/2023	$134,158.00		$134,158.00	8/2023	$134,158.00	
166	S100198279.005		Inwood shop	CITCO Water - Plug valves	7/2023	$26,796.00		$26,796.00	12/2023	$26,796.00	
106	6183.07		Inwood shop	Enviromix, Inc. - Digester Blowers	7/2023	$181,597.50		$181,597.50	10/2023	$181,597.50	
97	PSI-31936		Inwood shop	Centrisys - Centrifuge System	9/2023	$499,840.00		$499,840.00	1/2024	$499,840.00	
108	220802-2		Inwood shop	Micro-Tech Designs, Inc. - Controls and Instrumentation	9/2023	$14,087.00		$14,087.00			$14,087.00
134	111977-00		Inwood shop	Aircon Engineering - Unit Heaters, Louvers, Split System	9/2023	$26,918.00		$26,918.00	3/2024	$26,918.00	
83	1327		Inwood shop	Kephart Plaster and Stone - EIFS Outsulation	11/2023	$13,000.00		$13,000.00	12/2023	$13,000.00	
78	10033728		Inwood shop	Fibergrate Composite Structures - FRP Ladder	11/2023	$2,975.00		$2,975.00	2/2024	$2,975.00	
166	S100234535.004		Inwood shop	CITCO Water - DI Piping	11/2023	$8,800.61		$8,800.61	12/2023	$8,800.61	
108	220802-3, 4		onsite	Micro-Tech Designs-Float Control Panels, Eff./Drain Pumps	2/20024	$8,767.00	$20,712.00	$29,479.00			$29,479.00
				Totals		**$2,276,860.44**	**$20,712.00**	**$2,297,572.44**		**$1,992,390.64**	$305,181.80

Micro-Tech Designs, Inc.
4312 Black Rock Rd., Suite 1
Hampstead, MD 21074
Phone (410) 239-2885, Fax (410)239-3736

Invoice

Invoice Number: 220802-4

Invoice Date: 3/14/24

Sold To:
Alvarez Contractors, Inc.
PO Box 555
Oakland, MD 21550

Ship To:

Customer ID: ALVAREZ

Customer PO	Payment Terms	Sales Rep ID	Due Date
16000	Net 30 Days		4/13/24

Ship Via	Ship Date
Best Way	

Qty.	Description	Unit Price	Amount
3.00	Effluent Pump FVNR for Charles Town WWTP Improvements Project Tax Exempt Certificate : 320280357	6,904.00	20,712.00

Subtotal	20,712.00
Sales Tax	
Total Invoice Amount	20,712.00
Payment Received	0.00
TOTAL	20,712.00

Check No:

1.5% per month will be charged on all past due balances

Date: April 10, 2024

Charles Town Utility Board
2022 Renewal and Replacement Project
Schedule B

A. COST OF PROJECT	APPROVED CONSTRUCTION BUDGET	Paid by CTUB from Operating Account 11/16/2023-12/13/2023	Paid by CTUB from Operating Account 12/14/2023-2/14/2024	Paid by CTUB from Operating Account 2/15/2024-4/10/2024	Resolution No. 14 Contractor's Application for Payment No. 14	Resolution No. 15 Contractor's Application for Payment No. 15	Resolution No. 16 Contractor's Application for Payment No. 16	Resolution No. 17 Contractor's Application for Payment No. 17	Resolution No. 18 Contractor's Application for Payment No. 18	BALANCE REMAINING
1 **CONSTRUCTION**										
a. Contract	$ 10,151,000.00				$ 514,352.61	$ 157,984.22	$ 125,791.52	$ 231,456.69	$ 74,676.45	$ 3,379,874.85
b. Construction Contingency 5% - (See note #2 & #5 below)	$ 376,019.43									$ 376,019.43
c. Change Order #1 (See note #1 below)	$ 498,183.42									$ -
d. Change Order #2	$ 41,179.57									$ -
e. Change Order #3	$ 90,351.00				$ 5,421.00	$ 9,035.10	$ 6,324.57	$ 23,491.26	$ 3,614.00	$ 11,745.73
2 **ENGINEERING SERVICES**										
GDF Engineering fees (including CA and RPR)	$ 760,000.00	$ 13,033.75	$ 7,050.87	$ 2,873.49						$ 49,924.46
Additional RPR inspection	$ 125,000.00		$ 19,765.50	$ 21,537.64						$ 105,234.50
Initial GDF R&R Report	$ 40,082.50									$ -
3 **LEGAL SERVICES**										
a. Local Project Attorney	$ 20,000.00			$ 148.75						$ 14,392.75
4 **ADMINISTRATIVE SERVICES**										
a. Project Accountant (CPA)	$ 20,000.00									$ 9,112.50
b. Other Administrative Costs	$ 10,000.00									$ 3,151.74
5 **Total Project Costs Lines 1-6**	**$ 12,131,815.92**	**$ 13,033.75**	**$ 26,816.37**	**$ 24,559.88**	**$ 519,773.61**	**$ 167,019.32**	**$ 132,116.09**	**$ 254,947.95**	**$ 78,290.45**	**$ 3,949,455.96**
B. SOURCES OF FUNDS	**APPROVED PROJECT FUNDING**									
1 PROJECT FUNDS										
Internal Funds & EEG Grant										
a. Capacity Improvement Fees	$ 1,170,163.00									$ 1,170,163.00
b. Renewal & Replacement (See note #3 & #4 below)	$ 500,000.00									$ 1,816.58
c. Operating Cash	$ 1,515,122.92	$ (13,033.75)	$ (26,816.37)	$ (24,559.88)						$ 721,856.37
d. EEG Grant Funds	$ 1,966,030.00				$ (519,773.61)		$ (132,116.09)		$ (78,290.45)	$ 1,235,849.85
Total Internal Funds & EEG Grant Funds	**$ 5,151,315.92**									**$ 3,129,685.80**
Bond Proceeds										
e. 2022B & 2022C Construction Fund Account	**$ 6,980,500.00**				$ -	$ (167,019.32)	$ -	$ (254,947.95)	$ -	**$ 819,770.16**
Total Funds Available	**$ 12,131,815.92**	**$ (13,033.75)**	**$ (26,816.37)**	**$ (24,559.88)**	**$ (519,773.61)**	**$ (167,019.32)**	**$ (132,116.09)**	**$ (254,947.95)**	**$ (78,290.45)**	**$ 3,949,455.96**

Note #1 - March 1, 2023 this line item was increased to include the full amount of Change Order #1. Internal funds that were previously allocated for the Collection System project will be dedicated to this Change Order. This will require an increase of the requested funds from CWSRF for the Collection System Project.
Note #2 - March 8, 2023 this line item was decreased by $41,179.57 to include the full amount of Change Order #2.
Note #3 - Pay App #7 in the amount of $1,068,229.84 includes $298,910 from Change Order #1. $769,319.84 will be paid from the 2022B and $298,910 will be paid from the Renewal & Replacement Account.
Note #4 - Pay App #8 in the amount of $872,756.88 includes the remaining balance of $199,273.42 from Change Order #1. $673,483.46 will be paid from the 2022B and $199,273.42 will be paid from the Renewal & Replacement Account.
Note #5 - August 23, 2023 this line item was decreased by $90,351 to include the full amount of Change Order #3.

FOR PUBLIC RELEASE

Source Water Protection Plan
Charles Town Utilities

PWSID: WV3301905

Jefferson County

April 2024

Prepared By:

Kristen Stolipher

Utility General Manager

In cooperation with Charles Town Utilities

WV Bureau for Public Health, Source Water Assessment and Protection Program

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Kristen Stolipher

Preparer's Name

Utility General Manager

Title of Preparer

Dewberry Engineers Inc.

Name of Contractor(s)/Consultant(s)

I Certify the information in the source water protection plan is complete and accurate to the best of my knowledge.

Responsible party of designee authorized to sign for water utility is on file:

Chris Hutzler

Name of Authorizing Signatory:

Chief Operator

Title of Authorizing Signatory:

Date of Submission (mm/dd/yyyy):

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TABLE OF CONTENTS

LIST OF TABLES

APPENDICES

SOURCE WATER PROGRAM ACRONYMS

AST	Aboveground Storage Tank
BMP	Best Management Practices
ERP	Emergency Response Plan
GWUDI	Ground Water Under the Direct Influence of Surface Water
LEPC	Local Emergency Planning Committee
OEHS	EED Office of Environmental Health Services/Environmental Engineering Division
PE	Professional Engineer
PSSCs	Potential Source of Significant Contamination
PWSU	Public Water System Utility
RAIN	River Alert Information Network
RPDC	Regional Planning and Development Council
SDWA	Safe Drinking Water Act
SWAP	Source Water Assessment and Protection
SWAPP	Source Water Assessment and Protection Program
SWP	Source Water Protection
SWPA	Source Water Protection Area
SWPP	Source Water Protection Plan
WARN	Water/Wastewater Agency Response Network
WHPA	Wellhead Protection Area
WHPP	Wellhead Protection Program
WSDA	Watershed Delineation Area
WVBPH	West Virginia Bureau for Public Health
WVDEP	West Virginia Department of Environmental Protection
WVDHHR	West Virginia Department of Health and Human Resources
WVDHSEM	West Virginia Division of Homeland Security and Emergency Management
ZCC	Zone of Critical Concern
ZPC	Zone of Peripheral Concern

1.0 PURPOSE

The goal of the West Virginia Bureau of Public Health (WVBPH) source water assessment and protection (SWAP) program is to prevent degradation of source waters which may preclude present and future uses of drinking water supplies to provide safe water in sufficient quantity to users. The most efficient way to accomplish this goal is to encourage and oversee source water protection on a local level. Many aspects of source water protection may be best addressed by engaging local stakeholders.

The intent of this document is to describe what Charles Town Utilities has done, is currently doing, and plans to do to protect its source of drinking water. Although this water system treats the water to meet federal and state drinking water standards, conventional treatment does not fully eradicate all potential contaminants and treatment that goes beyond conventional methods is often very expensive. By completing this plan, Charles Town Utilities acknowledges that implementing measures to minimize and mitigate contamination can be a relatively economical way to help ensure the safety of the drinking water.

1.1. WHAT ARE THE BENEFITS OF PREPARING A SOURCE WATER PROTECTION PLAN?

- Fulfilling the requirement for the public water utilities to complete or update their source water protection plan.
- Identifying and prioritizing potential threats to the source of drinking water; and establishing strategies to minimize the threats.
- Planning for emergency response to incidents that compromise the water supply by contamination or depletion, including how the public, state, and local agencies will be informed.
- Planning for future expansion and development, including establishing secondary sources of water.
- Ensuring conditions to provide the safest and highest quality drinking water to customers at the lowest possible cost.
- Providing more opportunities for funding to improve infrastructure, purchase land in the protection area, and other improvements to the intake or source water protection areas.

2.0 BACKGROUND: WV SOURCE WATER ASSESSMENT AND PROTECTION PROGRAM

Since 1974, the federal Safe Drinking Water Act (SDWA) has set minimum standards on the construction, operation, and quality of water provided by public water systems. In 1986, Congress amended the SDWA. A portion of those amendments were designed to protect the source water contribution areas around ground water supply wells. This program eventually became known as the Wellhead Protection Program (WHPP). The purpose of the WHPP is to prevent pollution of the source water supplying the wells.

The Safe Drinking Water Act Amendments of 1996 expanded the concept of wellhead protection to include surface water sources under the umbrella term of Source Water Protection. The amendments encourage states to establish SWAP programs to protect all public drinking water supplies. As part of this initiative states must explain how protection areas for each public water system will be delineated, how potential contaminant sources will be inventoried, and how susceptibility ratings will be established.

In 1999, the WVBPH published the West Virginia Source Water Assessment and Protection Program, which was endorsed by the United States Environmental Protection Agency. Over the next few years, WVBPH staff completed an assessment (i.e., delineation, inventory and susceptibility analysis) for all of West Virginia's public water systems. Each public water system was sent a copy of its assessment report. Information regarding assessment reports for Charles Town Utilities can be found in **Table 1**.

3.0 STATE REGULATORY REQUIREMENTS

On June 6, 2014, §16 1 2 and §16 1 9a of the Code of West Virginia, 1931,was reenacted and amended by adding three new sections, designated §16 1 9c, §16 1 9d and §16-1-9e. The changes to the code outlines specific requirements for public water utilities that draw water from a surface water source or a surface water influenced groundwater source.

Under the amended and new codes each existing public water utility using surface water or ground water influenced by surface water as a source must have completed or updated a source water protection plan by July 1, 2016, and must continue to update their plan every three years. Existing source water protection plans have been developed for many public water utilities in the past. If available, these plans were reviewed and considered in the development of this updated plan. Any new water system established after July 1, 2016 must submit a source water protection plan before they start to operate. A new plan is also required when there is a significant change in the potential sources of significant contamination (PSSC) within the zone of critical concern (ZCC).

The code also requires that public water utilities include details regarding PSSCs, protection measures, system capacities, contingency plans, and communication plans. Before a plan can be approved, the local health department and public will be invited to contribute information for consideration. In some instances, public water utilities may be asked to conduct independent studies of the source water protection area and specific threats to gain additional information.

4.0 SYSTEM INFORMATION

CHARLES TOWN UTILITIES is classified as a state regulated public utility and operates a community public water system. A community public water system is a system that regularly supplies drinking water from its own sources to at least 15 service connections used by year round residents of the area or regularly serves 25 or more people throughout the entire year. For purposes of this source water protection plan, community public water systems are also referred to as public water utilities. Information on the population served by this utility is presented in **Table 1** below.

Table 1. Population Served by CHARLES TOWN UTILITIES

Administrative office location:	661 S George Street, Suite 101, Charles Town, JEFFERSON, WV, 25414		
Is the system a public utility, according to the Public Service Commission rule?	Yes		
Date of Most Recent Source Water Assessment Report:	7/1/2004		
Date of Most Recent Source Water Protection Plan:	10/2021		
Population served directly:	18,171		
Bulk Water Purchaser Systems:	System Name	PWSID Number	Population
Total Population Served by the Utility:	18,171		
Does utility have multiple Source Water Protection Areas(SWPAs)?	No		
How many SWPAs does the utility have?	1		

5.0 WATER TREATMENT AND STORAGE

As required, Charles Town Utilities has assessed their system (e.g., treatment capacity, storage capacity, unaccounted for water, contingency plans) to evaluate their ability to provide drinking water and protect public health. **Table 2** contains information on the water treatment methods and capacity of the utility. Information about the surface sources from which Charles Town Utilities draws water can be found in **Table 3**. If the utility draws water from any groundwater sources to blend with the surface water the information about these ground water sources can be found in **Table 4**.

Table 2. Charles Town Utilities Water Treatment Information

Charles Town Utilites	
Water treatment processes (in order of occurrence) includes:	COAGULATION, FILTRATION, DISINFECTION (CHLORINATION), FLUORIDATION
The treatment capacity is approximately (GPD):	3,000,000
Current average production is approximately (GPD):	1,656,000
Maximum gallons of water treated and produced at that plant in one day during the past year was:	2,420,000
Minimum gallons of water treated and produced at that plant in one day during the past year was:	1,171,000
Plant is operated an average of hours a day:	14
Maximum number of hours of operation in one day at that plant during the past year was:	18
Minimum number of hours of operation in one day at that plant during the past year was:	10
How many storage tank(s) are maintained on systems distribution system:	7
Total gallons of treated water storage:	3,572,000
Total gallons of raw water storage (GALs):	0

Table 3. Charles Town Utilities Surface Water Sources

Intake Name	Facility #	Local Name	Describe Intake	State Id Code	Date Constructed / Modified	Frequency of Use (Primary / Backup / Emergency)	Activity Status (Active/Inactive)
SHENANDOAH RIVER INTAKE	3490888	INTAKE #1	Standard Johnson Screen - 24 inch (Stainless Steel). T-Shaped Intake	IN001	1/1/1989	Permanent	Active

Table 4. Charles Town Utilities Ground Water Sources

Well/Spring Name	Facility #	Local Name	Date Constructed / Modified	Completion Report Available (Yes/No)	Well Depth (ft)	Casting Depth (ft)	Grout (Yes/No)	Frequency of Use (Primary / Backup / Emergency)	Activity Status (Active/Inactive)

6.0 DELINEATIONS

For surface water systems, delineation is the process used to identify and map the drainage basin that supplies water to a surface water intake. This area is generally referred to as the source water protection area (SWPA). All surface waters are susceptible to contamination because they are exposed at the surface and lack a protective barrier from contamination. Accidental spills, releases, sudden precipitation events that result in overland runoff, or storm sewer discharges can allow pollutants to readily enter the source water and potentially contaminate the drinking water at the intake. The SWPA for surface water is distinguished as a Watershed Delineation Area (WSDA) for planning purposes; and the Zone of Peripheral Concern (ZPC) and Zone of Critical Concern (ZCC) are defined for regulatory purposes.

The WSDA includes the entire watershed area upstream of the intake to the boundary of the State of West Virginia border, or a topographic boundary. The ZCC for a public surface water supply is a corridor along streams within the watershed that warrant more detailed scrutiny due to its proximity to the surface water intake and the intake's susceptibility to potential contaminants within that corridor. The ZCC is determined using a mathematical model that accounts for stream flows, gradient and area topography. The length of the ZCC is based on a five-hour time-of-travel of water in the streams to the water intake, plus an additional one-quarter mile below the water intake. The width of the zone of critical concern is 1,000 feet measured horizontally from each bank of the principal stream, and five hundred feet measured horizontally from each bank of the tributaries draining into the principal stream. Ohio River ZCC delineations are based on ORSANCO guidance and extend 25 miles above the intake. The Ohio River ZCC delineations include 1,320 feet (1/4 mile) measured from the bank of the main stem of the Ohio River and 500 feet on a tributary.

The ZPC for a public surface water supply source and for a public surface water influenced groundwater supply source is a corridor along streams within a watershed that warrants scrutiny due to its proximity to the surface water intake and the intake's susceptibility to potential contaminants within that corridor. The ZPC is determined using a mathematical model that accounts for stream flows, gradient and area topography. The length of the zone of peripheral concern is based on an additional five-hour time-of-travel of water in the streams beyond the perimeter of the zone of critical concern, which creates a protection zone of ten hours above the water intake. The width of the zone of peripheral concern is one thousand feet measured horizontally from each bank of the principal stream and five hundred feet measured horizontally from each bank of the tributaries draining into the principal stream.

For groundwater supplies there are two types of SWPA delineations: 1) wellhead delineations and 2) conjunctive delineations, which are developed for supplies identified as groundwater under the direct influence of surface water, or GWUDIs. A wellhead protection area is determined to be the area contributing to the recharge of the groundwater source (well or spring), within a five year time of travel. A conjunctive delineation combines a wellhead protection area for the hydrogeologic recharge and a connected surface area contributing to the wellhead.

Information and maps of the WSDA, ZCC, ZPC and Wellhead Protection Area for this public water supply were provided to the utility and are attached to this report. See **Appendix A. Figures**. Other information about the WSDA is shown in **Table 5**.

Table 5. Watershed Delineation Information

Intake Name	Shenandoah River
Size of WSDA (Square Miles)	3009
River Watershed Name (8-digit HUC)	Shenandoah - 02070007
Size of Zone of Critical Concern (Acres)	8691
Size of Zone of Peripheral Concern (Acres) (Include ZCC area)	13807
Do you blend with ground water	No
Do you have an intake or well/spring missing from the list?	No

7.0 PROTECTION TEAM

One important step in preparing a source water protection plan is to organize a source water protection team who will help develop and implement the plan. The legislative rule requires that water utilities make every effort to inform and engage the public, local government, local emergency planners, the local health department and affected residents at all levels of the development of the protection plan. WVBPH recommends that the water utility invite representatives from these organizations to join the protection team, which will ensure that they are given an opportunity to contribute in all aspects of source water protection plan development. Public water utilities should document their efforts to engage representatives and provide an explanation if any local stakeholder is unable to participate. In addition, other local stakeholders may be invited to participate on the team or contribute information to be considered. These individuals may be emergency response personnel, local decision makers, business and industry representatives, land owners (of land in the protection area), and additional concerned citizens.

The administrative contact for Charles Town Utilities is responsible for assembling the protection team and ensuring that members are provided the opportunity to contribute to the development of the plan. The acting members of the Protection Team are listed in **Table 6**.

The role of the protection team members will be to contribute information to the development of the source water protection plan, review draft plans and make recommendations to ensure accuracy and completeness, and when possible contribute to implementation and maintenance of the protection plan. The protection team members are chosen as trusted representatives of the community served by the water utility and may be designated to access confidential data that contains details about the local PSSCs. The input of the protection team will be carefully considered by the water utility when making final decisions relative to the documentation and implementation of the source water protection plan.

Charles Town Utilities will be responsible for updating the source water protection plan and rely upon input from the protection team and the public to better inform their decisions. To find out how you can become involved as a participant or contributor, visit the utility website or call the utility phone number, which are provided in **Table 6**.

Table 6. Protection Team Member and Contact Information

Name	Representing	Title	Phone Number	Email
Kristen Stolipher	Charles Town Utilities	Utility Manager	(304)724-3280	kstolipher@ctubwv.com
Chris Hutzler	Charles Town Utilities	Chief Operator	(304)725-3761	chutzler@ctubwv.com
Dennis Pouget	Charles Town Utilities	Director	(304)728-3287	dpouget@jcesa.org
Stephen Allen	Jefferson County Office of Homeland Security and Emergency Services	Director	(304)728-3329	sallen@jeffersoncountywv.org
Mike Sine	Jefferson County Emergency Services Agency	Director	(304)725-3287	msine@jcesa.org
Jeff Polczynski	Jefferson County Emergency Communications Center	Director	(304)728-3317	jpolczynski@jeffersoncountywv. org
Chris Cross	Jefferson County Emergency Communications Center	Deputy Director	(304)728-3372	ccross@jeffersoncountywv.org
Jessica Gormont	Jefferson County GIS Department	GIS Coordinator	(304)724-8986	jgormont@jeffersoncountywv.org
Mason Carter	Jefferson County Floodplain Ordinance Coordinator	Floodplain Coordinator		mcarter@jeffersoncountywv.org
Chief	Citizens Fire Department	Chief	(304)725-2814	
Chief	Independent Fire Department	Chief	(304)725-2514	ifc@independantfirecompany.net
Alana Hartman	WVDEP Div of Water & Waste Management (Nonpoint Section)	Environmental Resources Analyst	(304)822-7266	alana.c.hartman@wv.gov
Justin Jordan	WVDHHR Kearneysville District Office	Representative	(304)725-9453	justin.e.jordan@wv.gov

Dewberry Engineers Inc.		Consultant for Charles Town Utilities	(804)823-6980	rkinchloe@dewberry.com
Lew Baker	WV Rural Water Association	FSA Sourcewater Specialist	(304)638-9883	lewbaker@wvrwa.org
Jennifer O'Brien	Eastern Panhandle Regional Planning & Development Council	Assistant Director	(304)263-1743	jobrien@region9wv.com
Maria Russo	WV Rivers Coalition	Representative	(304)433-7376	mrusso@wvrivers.org
Karen Andersen	Friends of the Shenandoah	Representative		kandersen@fors.org
Karen Bencala	ICPRB	Senior Water Resources Planner	(301)984-1908	kbencala@icprb.org
Efforts made to inform and engage local stakeholders (public, local government, local emergency planners, local health department, and affected residents) and explain absence of recommended stakeholders		The first meeting to notify the public of the draft will be held on April 10, 2024. The second meeting and public hearing will be held on April 24, 2024.		

8.0 POTENTIAL SOURCES OF SIGNIFICANT CONTAMINATION

Source water protection plans should provide a complete and comprehensive list of the PSSCs contained within the ZCC, based upon information obtained from the WVBPH, working in cooperation with the West Virginia Department of Environmental Protection (WVDEP) and the West Virginia Division of Homeland Security and Emergency Management (WVDHSEM). A facility or activity is listed as a PSSC if it has the potential to release a contaminant that could potentially impact a nearby public water supply, and it does not necessarily indicate that any release has occurred.

The list of PSSCs located in the SWPA is organized into two types: 1) SWAP PSSCs, and 2) Regulated Data. SWAP PSSCs are those that have been collected and verified by the WVBPH SWAP program during previous field investigations to form source water assessment reports and source water protection plans. Regulated PSSCs are derived from federal and state regulated databases, and may include data from WVDEP, US Environmental Protection Agency, WVDHSEM, and from state data sources.

8.1. CONFIDENTIALITY OF PSSCS

A list of the PSSCs contained within the ZCC should be included in the source water protection plan. In the event of a chemical spill, release or other related emergency, information pertaining to the contaminant shall be immediately disseminated to any emergency responders reporting to the site. The designees for Charles Town Utilities are identified in the communication planning section of the source water protection plan.

PSSC data from some agencies (ex. WVDHSEM, WVDEP, etc.) may be restricted due to the sensitive nature of the data. Locational data will be provided to the public water utility. However, to obtain specific details regarding contaminants, (such as information included in Tier II reports), water utilities should contact the local emergency planning commission (LEPC) or agencies, directly. While the maps and lists of the PSSCs and regulated sites are to be maintained in a confidential manner, these data are provided in **Appendix A. Figures** for internal review and planning uses only.

8.2. LOCAL AND REGIONAL PSSCS

For the purposes of this source water protection plan, local PSSCs are those that are identified by local stakeholders in addition to the PSSCs lists distributed by the WVBPH and other agencies. Local stakeholders may identify local PSSCs for two main reasons. The first is that it is possible that threats exist from unregulated sources and land uses that have not already been inventoried and do not appear in regulated databases. For this reason each public water utility should investigate their protection area for local PSSCs. A PSSC inventory should identify all contaminant sources and land uses in the delineated ZCC. The second reason local PSSCs are identified is because public water utilities may consider expanding the PSSC inventory effort outside of the ZCC into the ZPC and WSDA if necessary to properly identify all threats that could impact the drinking water source. As the utility considers threats in the watershed they may consider collaborating with upstream communities to identify and manage regional PSSCs.

When conducting local and regional PSSC inventories, utilities should consider that some sources may be obvious like above ground storage tanks, landfills, livestock confinement areas, highway or railroad right of ways, and sewage treatment facilities. Others are harder to locate like abandoned cesspools, underground tanks, French

drains, dry wells, or old dumps and mines.

The Charles Town Utilities reviewed intake locations and the delineated SWPAs to verify the existence of PSSCs provided by the WVBPH and identify new PSSCs. If possible, locations of regulated sites within the SWPA were confirmed. Information on any new or updated PSSCs identified by Charles Town Utilities and not already appearing in datasets from the WVBPH can be found in .**Table 7**.

Table 7. Locally Identified potential Sources of Significant Contamination

Please see Appendix A to view this information.

8.3. PRIORITIZATION OF THREATS AND MANAGEMENT STRATEGIES

Once the utility has identified local concerns, they must develop a management plan that identifies specific activities that will be pursued by the public water utility in cooperation and concert with the WVBPH, local health departments, local emergency responders, LEPC and other agencies and organizations to protect the source water from contamination threats.

Depending on the number identified, it may not be feasible to develop management strategies for all of the PSSCs in the SWPA. The identified PSSCs can be prioritized by potential threat to water quality, proximity to the intake(s), and local concern. The highest priority PSSCs can be addressed first in the initial management plan. Lower ranked PSSCs can be addressed in the future as time and resources allow. To assess the threat to the source water, water systems should consider confidential information about each PSSC. This information may be obtained from state or local emergency planning agencies, Tier II reports, facility owner, facility groundwater protection plans, spill prevention response plans, results of field investigations, etc.

In addition to identifying and prioritizing PSSCs within the SWPA, local source water concerns may also focus on critical areas. For the purposes of this source water protection plan, a critical area is defined as an area that is identified by local stakeholders and can lie within or outside of the ZCC. Critical areas may contain one or more PSSCs which would require immediate response to address a potential incident that could impact the source water.

A list of these priority PSSCs was selected and ranked by the Charles Town Utilities Protection Team. This list reflects the concerns of this specific utility and may contain PSSCs not previously identified and not within the ZCC or ZPC. **Table 8** contains a description of why each critical area or PSSC is considered a threat and what management strategies the utility is either currently using or could use in the future to address each threat.

9.0 IMPLEMENTATION PLAN FOR MANAGEMENT STRATEGIES

Charles Town Utilities reviewed the recommended strategies listed in their previous source water protection plan, to consider if any of them should be adopted and incorporated in this updated plan. **Table 9** provides a brief statement summarizing the status of the recommended strategies. **Table 9** also lists strategies from a previous plan that are being incorporated in this plan update.

When considering source management strategies and education and outreach strategies, this utility has considered how and when the strategies will be implemented. The initial step in implementation is to establish responsible parties and timelines to implement the strategies. The water utility, working in conjunction with the Protection Team members, can determine the best process for completing activities within the projected time periods. Additional meetings may be needed during the initial effort to complete activities, after which the Protection Team should consider meeting annually to review and update the Source Water Protection Plan. A system of regular updates should be included in every implementation plan.

Proposed commitments and schedules may change but should be well documented and reported to the local stakeholders. If possible, utilities should include cost estimates for strategies to better plan for implementation and possible funding opportunities. Charles Town Utilities has developed an implementation plan for priority concerns listed in **Table 8**. The responsible team member, timeline, and potential cost of each strategy are presented in **Table 9**. Note: Because timelines may change, future plan updates should describe the status of each strategy and explain the lack of progress.

Table 8. Priority PSSCs or Critical Areas

PSSC or Critical Area	Priority Number	Reason for Concern
Agricultural Landuses	1	Pesticides and other chemicals used for farm operations can migrate into the water supply. Areas used for disposal of animal waste or burying dead livestock can also cause contamination of the source water. Increased nutrient load from these sources in surface water may result in algal growth. Algal presence may result in taste and odor issues. If stressed some algae also releases toxic chemicals that could cause a threat to human health.
Industrial & Commercial Activity	2	Facilities such as gas stations, auto repair shops, and dry cleaners are located within the SWPA and pose a threat due to the potential for accidental spills, leaks, improper disposal of hazardous waste or improperly managed storm water runoff.
Boat Ramp	3	The WV Division of Natural Resources (WVDNR) Shannondale Springs Wildlife Management Area (WMA) has a boat ramp within the ZCC on a tributary upstream of the intake. Petroleum products from boats may contaminate the surface waters.
Railroad Traffic	4	The railroad tracks run through the protection watershed and cross 2 tributaries within the ZCC. A spill or leak could contaminate the source water.
On-Site Septic Systems	5	Failing septic systems or untreated sewage from on-site septic systems could infiltrate to the surface water source, raising concentrations of total coliform, particularly fecal coliform.
New Development Construction	6	Construction runoff from new development can increase turbidity, total dissolved solids, and total suspended solids in the surface waters. Petroleum products from construction equipment could migrate into surface waters should a spill or leak occur.
Land Conservation within the Watershed.	7	Land conservation is critical to the over health of the Shenandoah River and its tributaries. Forests lands and wetlands are vital along the routes of waterways. Restoring areas along the river to native habitats acts to filter water, stops siltation and recharges aquifers. Also, land conservation increases aquatic wildlife and access for recreation.

Table 9. Priority PSSC Management Strategies

PSSC or Critical Area	Management Activity	Responsible Protection Team Member	Status / Schedule	Comments	Estimated Cost
Boat Ramp	Contact personnel of the WVDNR Shannondale Springs WMA to identify any measures that the water system can assist to promote keeping the water free of petroleum products associated with boats.	Charles Town Utility Board	Not Started		Personnel Time

Table 9. Priority PSSC Management Strategies

PSSC or Critical Area	Management Activity	Responsible Protection Team Member	Status / Schedule	Comments	Estimated Cost
Land Conservation within the Watershed.	Charles Town Utilities will focus on the connection between land conservation and source water protection. We will collaborate with conservation organizations like WV Rivers Coalition, WV Land Trust, the Farmland Protection Board, Land Trust of the Eastern Panhandle, Historic Landmark Commissions, and others to explore strategies to accelerate conservation easements that benefit our public drinking water source. The resulting management strategy will be a collaborative effort to identify priority conservation areas.	Lead: WV Rivers Coalition Charles Town Utility Board	Ongoing	Meet with WV Rivers Coalition to discuss opportunities	Minimal, staff time to attend meetings
Industrial & Commercial Activity	Charles Town will request Groundwater Protection Plans (GPPs) and/or stormwater management plans from WVDEP for commercial facilities located within the SWPA. Review and investigate what (if any) preventative pollution measures are already in place for these facilities. This will permit the utility to better understand protection strategies already in place at these facilities and more accurately determine the threat posed by specific facilities.	Charles Town Utility Board	Ongoing		Personnel Time
Agricultural Landuses	Pesticides, herbicides and nutrients used for farm operations can migrate through surface waters into the water supply. Non-point source runoff from the livestock areas may introduce pathogens, particularly if the runoff occurs from confined spaces, such as feedlots. Overgrazing can create erosion issues. Areas used for disposal of animal waste or burying dead livestock can also cause contamination of the source water.	Charles Town Utility Board	Ongoing		Personnel Time

Table 9. Priority PSSC Management Strategies

PSSC or Critical Area	Management Activity	Responsible Protection Team Member	Status / Schedule	Comments	Estimated Cost
Agricultural Landuses	Consider working with the local Future Farmers of America members to distribute educational materials and best management practices information.	n/a	Not Started		
Agricultural Landuses	Work with the local livestock owners to determine the placement of animal waste disposal areas and/or areas for burying dead livestock.	n/a	Not Started		
Railroad Traffic	When CSX railways offers or provides training materials, planning guides, trainings, exercises, etc., to the LEPC, Jefferson County LEPC will make the information available to local emergency response agencies so that they may choose to utilize them. CSX has made their Rail Respond internet-based program available to HSEM, LEPC, and emergency responders that can document to CSX a need to know, which provides access to critical information about response to accidents involving the CSX rails. Emergency personnel have also expressed interest to CSX in performing routine Emergency Response drills for Highway and Railroad spills. Charles Town Utilities will work with WVDEP of BPH to perform a Hazmat Re-route request to prevent specific potential contaminants from being transported through system source water protection areas. These entities will work with railroad companies to discuss safety measures, emergency plans and inspection routine(s).	Charles Town Utility Board, Jefferson County Homeland Security and Emergency Management, WVDEP, WVBPH	Ongoing		Personnel Time
Railroad Traffic	Work with the railroad company to create an emergency response plan in case a hazardous materials spill would occur to prevent or cleanup contamination of the source water.	n/a	Not Started		

Table 9. Priority PSSC Management Strategies

PSSC or Critical Area	Management Activity	Responsible Protection Team Member	Status / Schedule	Comments	Estimated Cost
New Development Construction	Ensure sediment and erosion control measures are being instituted at construction sites. Monitor compliance with existing regulations through inspections and/or contact with regulatory agencies (WVDEP).	Charles Town Utility Board	Ongoing		Personnel Time
On-Site Septic Systems	Charles Town Utilities will work with the Health Department to the degree feasible to encourage homeowners to maintain and routinely inspect their septic systems or replace old or failing septic systems with Best Available Technologies (BATs). Outreach materials will encourage them to have their septic system inspected regularly and pumped every 5-10 years as needed. Also, the USEPA provides a complete guide for residents to maintain their septic systems, for the guide, visit: http://epa.gov/own/septic/pubs/homeownerguide long.pdf.	Charles Town Utility Board, Jefferson County Health Department, WVDEP-DWWM	Ongoing		Personnel Time

10.0 EDUCATION AND OUTREACH STRATEGIES

The goal of education and outreach is to raise awareness of the need to protect drinking water supplies and build support for implementation strategies. Education and outreach activities will also ensure that affected citizens and other local stakeholders are kept informed and provided an opportunity to contribute to the development of the source water protection plan. Charles Town Utilities has created an Education and Outreach plan that describes activities it has either already implemented or could implement in the future to keep the local community involved in protecting their source of drinking water. This information can be found in **Table 10**.

Table 10. Education and Outreach Implementation Plan

Education and Outreach Strategy	Description of Activity	Responsible Protection Team Member	Status / Schedule	Comments	Estimated Cost
Jefferson County Water Advisory Committee Participation	A representative from Charles Town Utilities will participate in the Jefferson County Water Advisory Committee. County Cleanup days, outreach, Shepherdstown day, 7 watershed groups coordinated	Charles Town Utilities	Ongoing	The Jefferson County Water Advisory Commitee meets the 3rd Wednesday of each month at the County Commission meeting room located at 200 E. Washington Street, Charles Town, WV	
Emergency Planning and Coordination	Participate with local fire departments and County Emergency Services on a regular basis. This will ensure that all the agencies are in constant communication with one another and prepared in the event of an emergency.	Jefferson County Office of Homeland Security and Emergency Management Citizens and Independent Fire Departments Charles Town Utilities	Ongoing	On-going training exercises by emergency services.	Minimal, staff time to attend meetings.
Clean Up Events	Coordinate with local Clean Up efforts and publicize projects. Work closely with Watershed Associations in this regard.	Charles Town Utilities	Not Started	Coordinate with local organizations and publish information on web page	
General Information Dissemination	Include educational information on the following topics on website for public use: Source water protection, water conservation, household hazardous materials disposal, pharmaceuticals disposal, observing and reporting spills/leaks.	Charles Town Utilities	Not Started	Annual CCR	
Best Management Practices (BMP) lists	Distribute lists of industry specific BMPs to the owners of (1) Gas Stations, (2) Car Repair Shops, (3) Agricultural Lands/Facilities within the SWPA (Future Farmers, etc.) Provide SWPP education materials.	WVDEP and WVDHHR Charles Town Utilities	Not Started	Charles Town can make this information available via web links on their web page	

Table 10. Education and Outreach Implementation Plan

Education and Outreach Strategy	Description of Activity	Responsible Protection Team Member	Status / Schedule	Comments	Estimated Cost
Display Information	(1) Include information materials (i.e. brochures, maps, etc.) in County and City Government offices and other public places (i.e. local fairs). Work with DOT for protection area sign expansion/coverage. (2) Host non-confidential SWPP online for public review and comment.	Jefferson County Office of Homeland Security and Emergency Management. Citizens and Independent Fire Departments Charles Town Utilities	Ongoing	On-going training excercises by emergency services	
School Curricula	Work with area schools to include source water protection information into the curriculum, or present information at assemblies or in classroom events (e.g. environmental science class). Consider implementing in conjunction with City and County MS4 requirements.	WVDEP/WVDHHR Charles Town Utilities	Not Started	Coordinate with local organizations and publish information on web page	
School Curricula	In addition, the USEPA offers free educational materials for teachers and students, including classroom lessons, fact sheets, and interactive games and activities, for grades K-12. These materials can be accessed at the following websites. For general source water protection: http://www.epa.gov/safewater/kids/index.html. For water conservation: http://www.epa.gov/watersense/resources/educational_materials.html Similar protection and conservation related resources can be found at the Groundwater Foundation website; http://www.groundwater.org/kc/kc.html."	n/a	Not Started		
School Curricula	Visit school or invite students for a plant tour to tie in with school curricula.	n/a	Not Started		

Table 10. Education and Outreach Implementation Plan

Education and Outreach Strategy	Description of Activity	Responsible Protection Team Member	Status / Schedule	Comments	Estimated Cost
School Curricula	Ask the school to include message in school newsletter to raise awareness about source water protection and conservation.	n/a	Not Started		
Public-Private Partnerships	Work in concert with private partnerships such as WV Rivers Coalition to implement programs like Safe Water for West Virginia. This program would include outreach to landowners to promote land conservation within the ZCC, ZPC and water shed to better improve overall water quality.	West Virginia Rivers Coalition	Ongoing	WV Rivers should take the lead on this item and implement a schedule moving forward.	Minimal, staff time to attend meetings.

11.0 CONTINGENCY PLAN

The goal of contingency planning is to identify and document how the utility will prepare for and respond to any drinking water shortages or emergencies that may occur due to short and long term water interruption, or incidents of spill or contamination. During contingency planning, utilities should examine their capacity to protect their intake, treatment, and distribution system from contamination. They should also review their ability to use alternative sources and minimize water loss, as well as their ability to operate during power outages. In addition, utilities should report the feasibility of establishing an early warning monitoring system and meeting future water demands.

Isolating or diverting any possible contaminant from the intake for a public water system is an important strategy in the event of an emergency. One commonly used method of diverting contaminants from an intake is establishing booms around the intake. This can be effective, but only for contaminants that float on the surface of the water. Alternatively, utilities can choose to pump floating contaminants from the water or chemically neutralize the contaminant before it enters the treatment facility.

Public utilities using surface sources should be able to close the intake by one means or another. However, depending upon the system, methods for doing so could vary greatly and include closing valves, lowering hatches or gates, raising the intake piping out of the water, or shutting down pumps. Systems should have plans in place in advance as to the best method to protect the intake and treatment facility. Utilities may benefit from turning off pumps and, if possible, closing the intake opening to prevent contaminants from entering the piping leading to the pumps. Utilities should also have a plan in place to sample raw water to identify the movement of a contaminant plume and allow for maximum pumping time before shutting down an intake (See Early Warning Monitoring System). The amount of time that an intake can remain closed depends on the water infrastructure and should be determined by the utility before an emergency occurs. The longer an intake can remain closed in such a case, the better.

Raw and treated water storage capacity also becomes extremely important in the event of such an emergency. Storage capacity can directly determine how effectively a water system can respond to a contamination event and how long an intake can remain closed. Information regarding the water shortage response capability of Charles Town Utilities is provided in **Table 11**.

11.1. RESPONSE NETWORKS AND COMMUNICATION

PSSC data from some agencies (ex. WVDHSEM, WVDEP, etc.) may be restricted due to the sensitive nature of the data. Locational data will be provided to the public water utility. However, to obtain specific details regarding contaminants, (such as information included in Tier II reports), water utilities should contact the local emergency planning commission (LEPC) or agencies, directly. While the maps and lists of the PSSCs and regulated sites are to be maintained in a confidential manner, these data are provided in **Appendix A. Figures** for internal review and planning uses only.

Table 11. Charles Town Utilities Water Shortage Response Capacity

Can the water utility isolate or divert contamination from the intake and groundwater supply?	Yes
Describe the results of an examination and analysis of the public water system's ability to isolate or divert contaminated waters from its surface water intake or groundwater supply:	Isolation by electronically closing the drop gate of the intake to the wet well. Using the ICPRB real time tool, Charles Town is informed of contaminant migration from upstream via real time modeling. The ICPRB is capable of determining time of travel of contaminants to the Charles Town intake. This will allow them to plan when to shut down the drop gate of the intake to isolate and keep the system from taking in potential contaminants. In addition, they have an 1800 gpm trash pump that can be manually placed into the Shenandoah River with the suction approximately 20 feet from shore if the contaminants are not near the shore line.
Describe the results of an examination and analysis of the public water system's existing ability to switch to an alternative water source or intake in the event of contamination of its primary water source:	Potentially. Using the 1800 gpm portable trash pump the Utility can establish a temporary intake in the Shenandoah Rover close to the shoreline near the wet well. The utility currently has this capability, and exercises it during periods of frazil ice or heavy organic leaf buildup on the intake structure.
Is the Utility able to close the water intake in the event of a spill?	Yes
How long can the Utility keep the intake closed?	Approximately 2.16 days (1,656,898 gpd average production, with current storage capacity of 3,572,000 gallons of treated water.
Describe the process to close the intake:	The intake pumps can be shut down and the intake structure has a drop gate that can be closed electronically from the treatment plant.
Describe the treated water system's storage capacity of the water system:	[redacted]
Gallons of storage capacity (raw water)	0
Gallons of storage capacity (treated water)	0
Is the Utility a member of WVRWA Emergency Response Team?:	No
Is the Utility a member of WV-WARN?:	Yes
List other agreements to provide receive assistance in case of emergency:	N/A

11.2. OPERATION DURING LOSS OF POWER

Charles Town Utilities analyzed its ability to operate effectively during a loss of power. This involved ensuring a means to supply water through treatment, storage, and distribution without creating a public health emergency. Information regarding the utility's capacity for operation during power outages is summarized in **Table 12**.

Table 12. Generator Capacity

Can you connect to a generator at the intake/wellhead?:		Yes	
Please provide a scenario that best describes your system:		Has standby generator, hard-wired and read to turn on. 3 phase Cummins 250 KW Model DQAC 1403873 Seriel # D140667237 (Spec H)	
What do you have (KW)?		250.00	
What do you need (KW)?		250.00	
Can you connect to a generator at the treatment facility?:		Yes	
Please provide a scenario that best describes your system:		Has standby generator, hard-wired and read to turn on. 3 phase Cummins 300 KW Model DQDAC 1344640 Serial# A140620402 (Spec G)	
What do you have (KW)?		300.00	
What do you need (KW)?		300.00	
Can you connect to a generator at the distribution system?:		Yes	
Please provide a scenario that best describes your system:		Has standby generator, hard-wired and read to turn on. Huntfield Booster Station 3 phase Cummins 100 KW, Northern High Zone Booster Station (Ranson) 3 phase Cummins 200 KW, Model DFGC2784250 Serial #L060003643 (Spec N), 1800 gpm trash pump (emergency pump)	
What do you have (KW)?		100.00	
What do you need (KW)?		100.00	
Does the utility have fuel on hand for generator?:		Yes	
Hours:		179	
Gallons:		550	
Provide a list of suppliers and alternate suppliers that could provide fuel in the event of an emergency:		Supplier	Phone Number
	Fuel	Roach Oil	(304)263-3329
	Fuel	Griffith Energy Services, Inc.	(240)416-2830
	Generator	WV National Guard	(304)267-2772
Does the utility test the generator(s) periodically?:		Yes	
Does the utility routinely maintain the generator(s)?:		Yes	
If the Utility does not have generator or the ability to connect to a generator, describe plans to respond to power outages:		In the event of a mechanical failure to the existing generators during an emergency, the system would need to obtain a Cummins Repair Technician, or obtain an equivalent emergency generator from a rental vendor or the National Guard, In the event another generator would be needed, an electrician would need to wire a the replacement generator into the system.	

11.3. FUTURE WATER SUPPLY NEEDS

When planning for potential emergencies and developing contingency plans, a utility needs to not only consider their current demands for treated water but also account for likely future needs. This could mean expanding current intake sources or developing new ones in the near future. This can be an expensive and time consuming process, and any

water utility should take this into account when determining emergency preparedness. Charles Town Utilities has analyzed its ability to meet future water demands at current capacity, and this information is included in **Table 13**.

Table 13. Future Water Supply Needs for Charles Town Utilities

Is the Utility able to meet water demands with the current capacity for the next five years?	Yes
Explain how you plan to do so:	Yes, there is enough capacity to support more residential, commercial and industrial development within the service area. The following explains how this can be achieved: 1.The water plant can increase daily production hours (currently running at approximately 13.50 hours/day) to increase total water production for near future expansion needs. 2.With capital improvements to the water delivery system, the total amount of fresh water on hand will increase as the replacement piping projects continue. Thus, increasing available fresh water and future expansion.

11.4. WATER LOSS CALCULATION

In any public water system there is a certain percentage of the total treated water that does not reach the customer. Some of this water is used in treatment plant processes such as back washing filters or flushing piping, but there is usually at least a small percentage that goes unaccounted for. To measure and report on this unaccounted for water, a public utility must use the method described in the Public Service Commission's rule, Rules for the Government of Water Utilities, 150CSR7, section 5.6. The rule defines unaccounted for water as the volume of water introduced into the distribution system less all metered usage and all known non-metered usage which can be estimated with reasonable accuracy.

To further clarify, metered usages are most often those that are distributed to customers. Non-metered usages that are being estimated include usage by fire departments for fires or training, un-metered bulk sells, flushing to maintain the distribution system, and water used for backwashing filters and cleaning settling basins. By totaling the known metered and non-metered uses the utility calculates unaccounted for water. Note: To complete annual reports submitted to the PSC, utilities typically account for known water main breaks by estimating the amount of water lost. However, for the purposes of the source water protection plan, any water lost due to leaks, even if the system is aware of how much water is lost at a main break, is not considered a use. Water lost through leaks and main breaks cannot be controlled during a water shortages or other emergencies and should be included in the calculation of percentage of water loss for purposes of the source water protection plan. The data in **Table 13** is taken from the most recently submitted Charles Town Utilities PSC Annual Report.

Table 14. Water Loss Information

Water pumped - Total Gallons:		604,768,000
*Water purchased - Total Gallons:		0
Total gallons of water pumped and purchased:		604,768,000
Total gallons of water loss accounted for except main leaks:	Mains, plaint, filters, flushing, etc - Total Gallons:	16,500,000
	Fire department - Total Gallons:	7,500,000
	Back washing - Total Gallons:	0

	Blowing settling basins - Total Gallons:	10,500,000
Total Accounted for Water Loss		34,500,000
Unaccounted for lost water - Total Gallons:		200,408,000
Water sold - Gallons:		354,360,000
Water Lost From Main Leaks:		15,500,000
Total Gallons of Unaccounted for Lost Water and Water Lost from Main Leaks:		215,908,000
Total percent unaccounted for water		36
Describe the measures to correct water loss greater than 15%:	The utility is continuing with planned capital improvements of approximately $7,000,000. The improvements consist of replacing known 2-inch galvanized piping in the older sections of the water system around Ranson. Also, 1,100 feet older ACP (Transite) piping was replaced along Fairfax Boulevard, Ranson. Additionally, all Transite piping mains used in Ranson will eventually be replaced as needed.	

11.5. EARLY WARNING MONITORING SYSTEM

Public water utilities are required to provide an examination of the technical and economic feasibility of implementing an early warning monitoring system. Implementing an early warning monitoring system may be approached in different ways depending upon the water utility's resources and threats to the source water. A utility may install a continuous monitoring system that will provide real time information regarding water quality conditions. This would require utilities to analyze the data to establish what condition is indicative of a contamination event. Continuous monitoring will provide results for a predetermined set of parameters. The more parameters that are being monitored, the more sophisticated the monitoring equipment will need to be. When establishing a continuous monitoring system, the utility should consider the logistics of placing and maintaining the equipment, and receiving output data from the equipment.

Alternately, or in addition, a utility may also pull periodic grab samples on a regular basis, or in case of a reported incident. The grab samples may be analyzed for specific contaminants. A utility should examine their PSSCs to determine what chemical contaminants could pose a threat to the water source. If possible, the utility should plan in advance how those contaminants will be detected. Consideration should be given to where samples will be collected, the preservations and hold times for samples, available laboratories to analyze samples, and costs associated with the sampling event. Regardless of the type of monitoring (continuous or grab), utilities should collect samples for their source throughout the year to better understand the baseline water quality conditions and natural seasonal fluctuations. Establishing a baseline will help determine if changes in the water quality are indicative of a contamination event and inform the needed response.

Every utility should establish a system or process for receiving or detecting chemical threats with sufficient time to respond to protect the treatment facility and public health. All approaches to receiving and responding to an early warning should incorporate communication with facility owners and operators that pose a threat to the water quality, with state and local emergency response agencies, with surrounding water utilities, and with the public. Communication plays an important role in knowing how to interpret data and how to respond.

Charles Town Utilities has analyzed its ability to monitor for and detect potential contaminants that could impact its source water. Information regarding this utility's early warning monitoring system capabilities is provided in **Table 15** and in **Appendix B**.

Table 15. Early Warning Monitoring System Capabilities

Does your system currently receive spill notifications from a state agency, neighboring water system, local emergency responders, or other facilities?			Yes
From whom do you receive notices?			Notifications are received from the WVDEP, WVDHHR and the WV Office of Homeland Security and Emergency Management. In addition the state of Virginia provides notifications as well as the Interstate Commission on the Potomac River Basin (ICPRB).
Are you aware of any facilities, land uses, or critical areas within your protection areas where chemical contaminants could be released or spilled?			Yes
Are you prepared to detect potential contaminants if notified of a spill?			Yes
List laboratories (and contact information) on whom you would rely to analyze water samples in case of a reported spill.	Laboratories		
	Name	Phone Number	
	Pace Analytical Services - Rapid Response Line	(877)859-7778	
	HydroChem Laboratories	(304)725-6174	
Do you have an understanding of baseline or normal conditions for your source water uality that accounts for seasonal fluctuations?			Yes
Does your utility (aside from turbidity monitoring) currently monitor your raw water through continuous monitoring at the surface water intake or groundwater source to detect changes in water quality that could indicate contamination?			No
Does your utility collect periodic grab samples (ex. possess reserved sample bottles, on-call laboratory services, and trained personnel) in response to a spill notification or to investigate changes in water quality that could indicate contamination?			Yes
Please explain:			Continuously test for turbidity in raw water and chlorine levels in finished water with HACH equipment. Daily grab samples for pH, turbidity, temperature, total organic carbon, alkalinity and hardness; monthly grab samples for cryptosporidium and E. Coli are being collected, yearly periodic grab for nitrate, nitrite, VOCs, SVOCs and Metals.
Provide or estimate the capital and O&M costs for your current or proposed early warning system or upgraded system.	Capital Cost:		15,000
	O&M Cost:		3,000
Do you serve more than 100,000 customers?			No
Does your system currently receive spill notifications from a state agency, neighboring water system, local emergency responders, or other facilities?			Yes
Are you prepared to detect potential contaminants if notified of a spill?			Yes
Please describe the methods you use to monbitor at the same technical levels utilized by ORSANCO:			

12.0 SINGLE SOURCE FEASIBILITY STUDY

If a public water utility's water supply plant is served by a single–source intake to a surface water source of supply or a surface water influenced source of supply, the submitted source water protection plan must also include an examination and analysis of the technical and economic feasibility of alternative sources of water to provide continued safe and reliable public water service in the event that its primary source of supply is detrimentally affected by contamination, release, spill event or other reason. These alternatives may include a secondary intake, two days of additional raw or treated water storage, an interconnection with neighboring systems, or other options identified on a local level. Note: a suitable secondary intake would draw water supplies from a substantially different location or water source.

To accomplish this requirement, utilities should examine all existing or possible alternatives and rank them by their technical, economic, and environmental feasibility. To have a consistent and complete method for ranking alternatives, WVBPH has developed a feasibility study guide. This guide provides several criteria to consider for each category, organized in a Feasibility Study Matrix. By completing the Feasibility Study Matrix, utilities will demonstrate the process used to examine the feasibility of each alternative and document scores that compare the alternatives. The Feasibility Study matrix and summary of the results are presented in an alternatives feasibility study attached as **Appendix D**.

13.0 COMMUNICATION PLAN

Charles Town Utilities has also developed a Communication Plan that documents the manner in which the public water utility, working in concert with state and local emergency response agencies, shall notify the local health agencies and the public of the initial spill or contamination event and provide updated information related to any contamination or impairment of the system's drinking water supply. The initial notification to the public will occur in any event no later than thirty minutes after the public water system becomes aware of the spill, release, or potential contamination of the public water system. A copy of the source water protection plan and the Communication Plan has been provided to the local fire department. Charles Town Utilities will update the Communication Plan as needed to ensure contact information is up to date.

Procedures should be in place to effectively react to the kinds of catastrophic spills that can reasonably be predicted at the source location or within the SWPA. The chain-of-command, notification procedures and response actions should be known by all water system employees.

The WVBPH has developed a recommended communication plan template that provides a tiered incident communication process to provide a universal system of alert levels to utilities and water system managers. The comprehensive Communication Plan for Charles Town Utilities is attached as **Appendix C** for internal review and planning purposes only.

The West Virginia Department of Environmental Protection is capable of providing expertise and assistance related to prevention, containment, and clean-up of chemical spills. The West Virginia Department of Environmental Protection Emergency Response 24-hour Phone is 1-800-642-3074. The West Virginia Department of Environmental Protection also operates an upstream distance estimator that can be used to determine the distance from a spill site to the closest public water supply surface water intake.

14.0 EMERGENCY RESPONSE

A public water utility must be prepared for any number of emergency scenarios and events that would require immediate response. It is imperative that information about key contacts, emergency services, and downstream water systems be posted and readily available in the event of an emergency. Elements of this source water protection plan, such as the contingency planning and communication plan, may contain similar information to the utility's emergency response plan. However, the emergency response plan is to be kept confidential and is not included in this source water protection plan. An Emergency Short Form is included in **Appendix C** to support the Communicate Plan by providing quick access to important information about emergency response and are to be used for internal review and planning purposes only.

15.0 CONCLUSION

This report represents a detailed explanation of the required elements of Charles Town Utilities's Source Water Protection Plan. Any supporting documentation or other materials that the utility considers relevant to their plan can be found in **Appendix E**.

This source water protection plan is intended to help prepare community public water systems all over West Virginia to properly handle any emergencies that might compromise the quality of the system's source water supply. It is imperative that this plan is updated as often as necessary to reflect the changing circumstances within the water system. The protection team should continue to meet regularly and continue to engage the public whenever possible. Communities taking local responsibility for the quality of their source water is the most effective way to prevent contamination and protect a water system against contaminated drinking water. Community cooperation, sufficient preparation, and accurate monitoring are all critical components of this source water protection plan, and a multi-faceted approach is the only way to ensure that a system is as protected as possible against source water degradation.

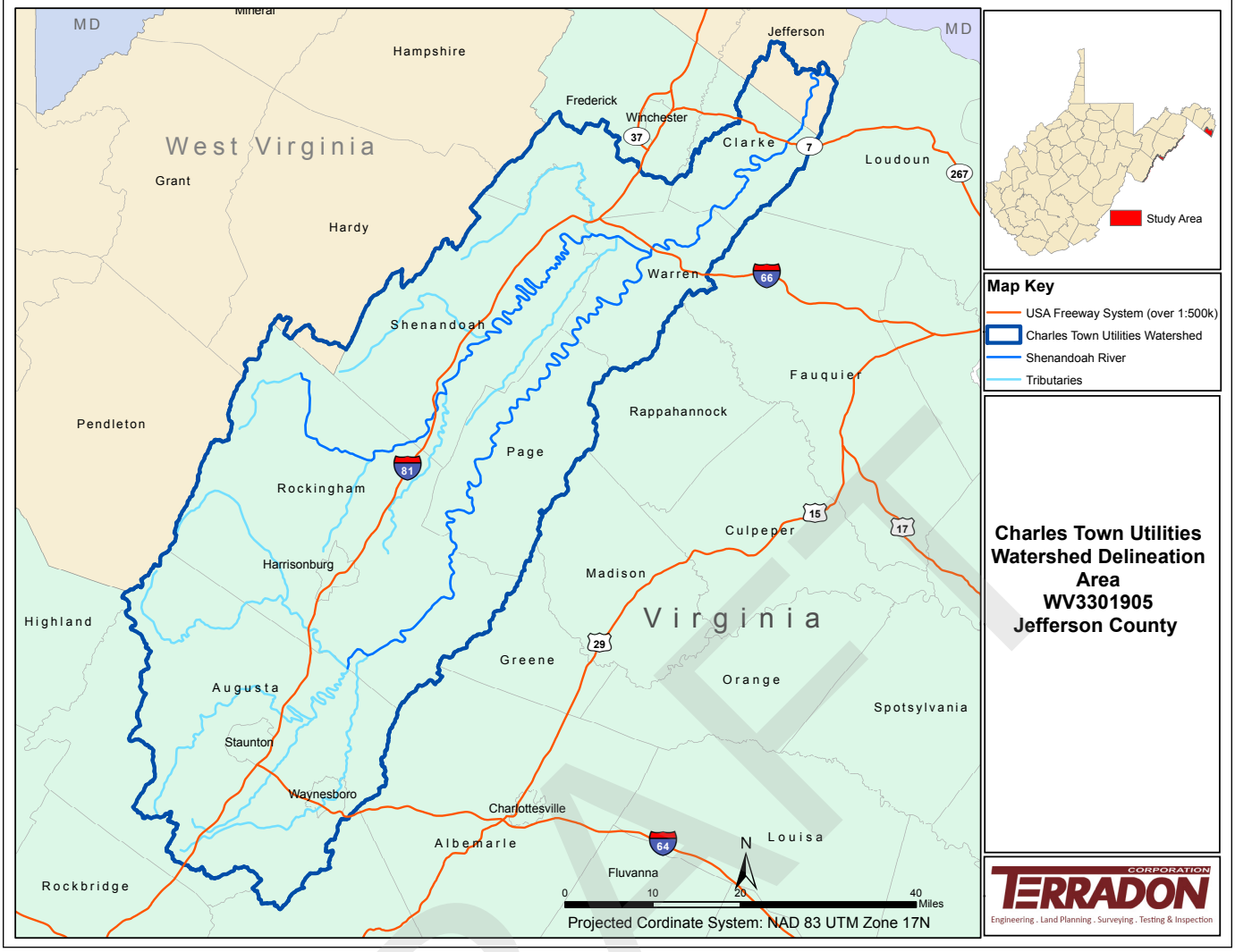
APPENDIX A. FIGURES AND TABLES

Water Source / Delineation

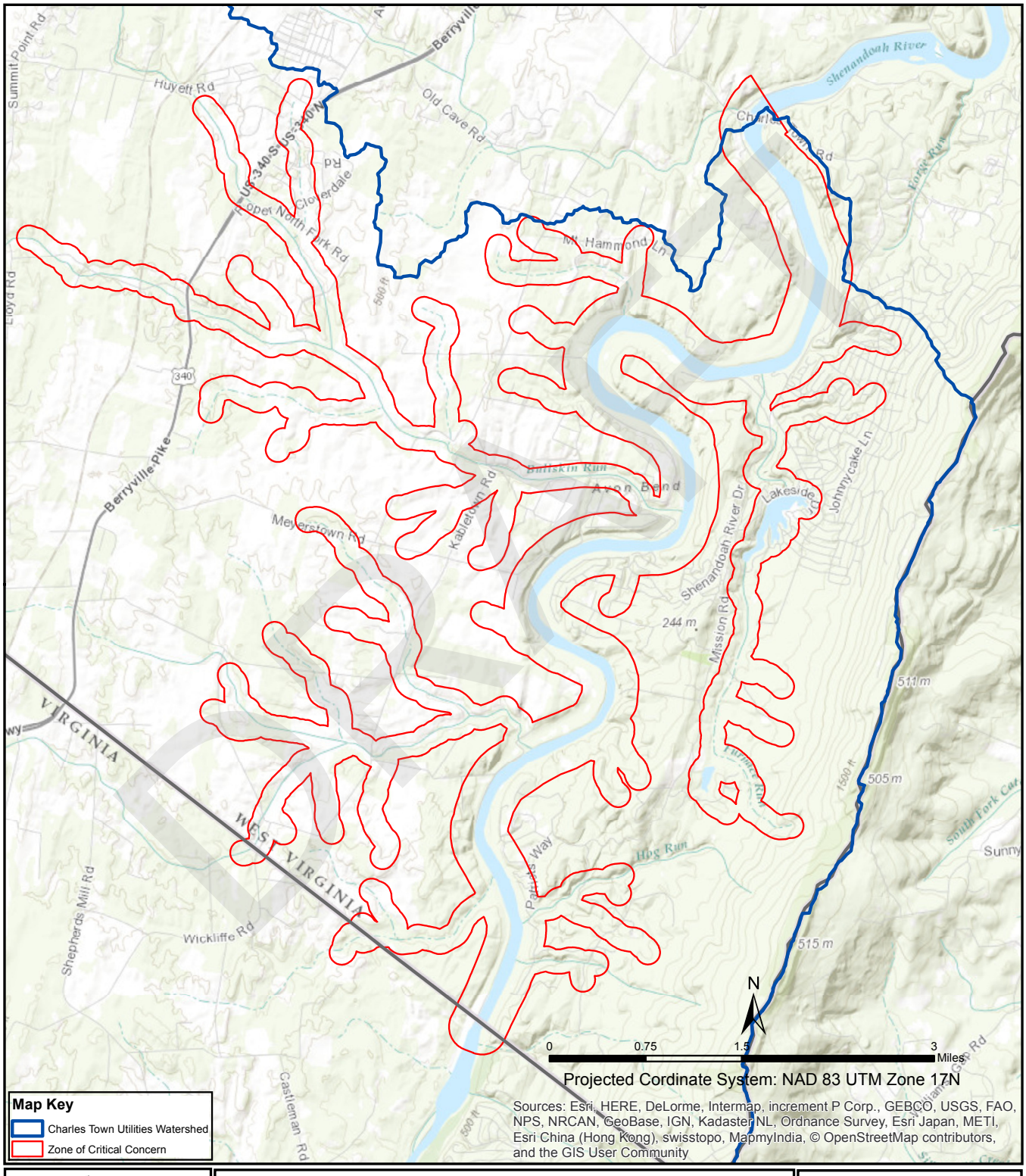
Surface Water Sources

Intake: Shenandoah River

Map of watershed delineation area



Map of zone of critical Concerns



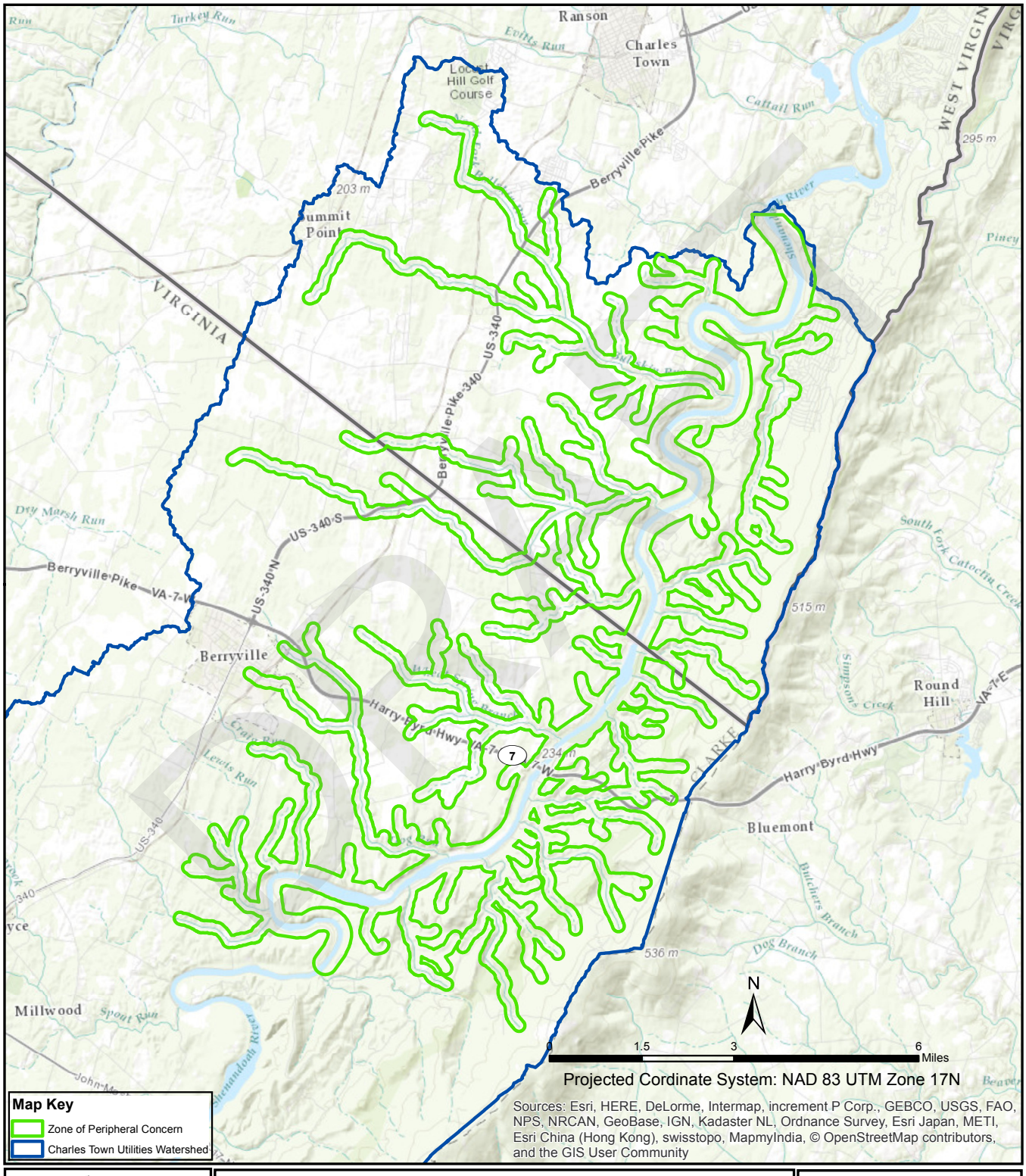
Charles Town Utilities Zone of Critical Concern

WV3301905

Jefferson County

TERRADON CORPORATION
Engineering . Land Planning . Surveying . Testing & Inspection

Map of zone of peripheral Concerns



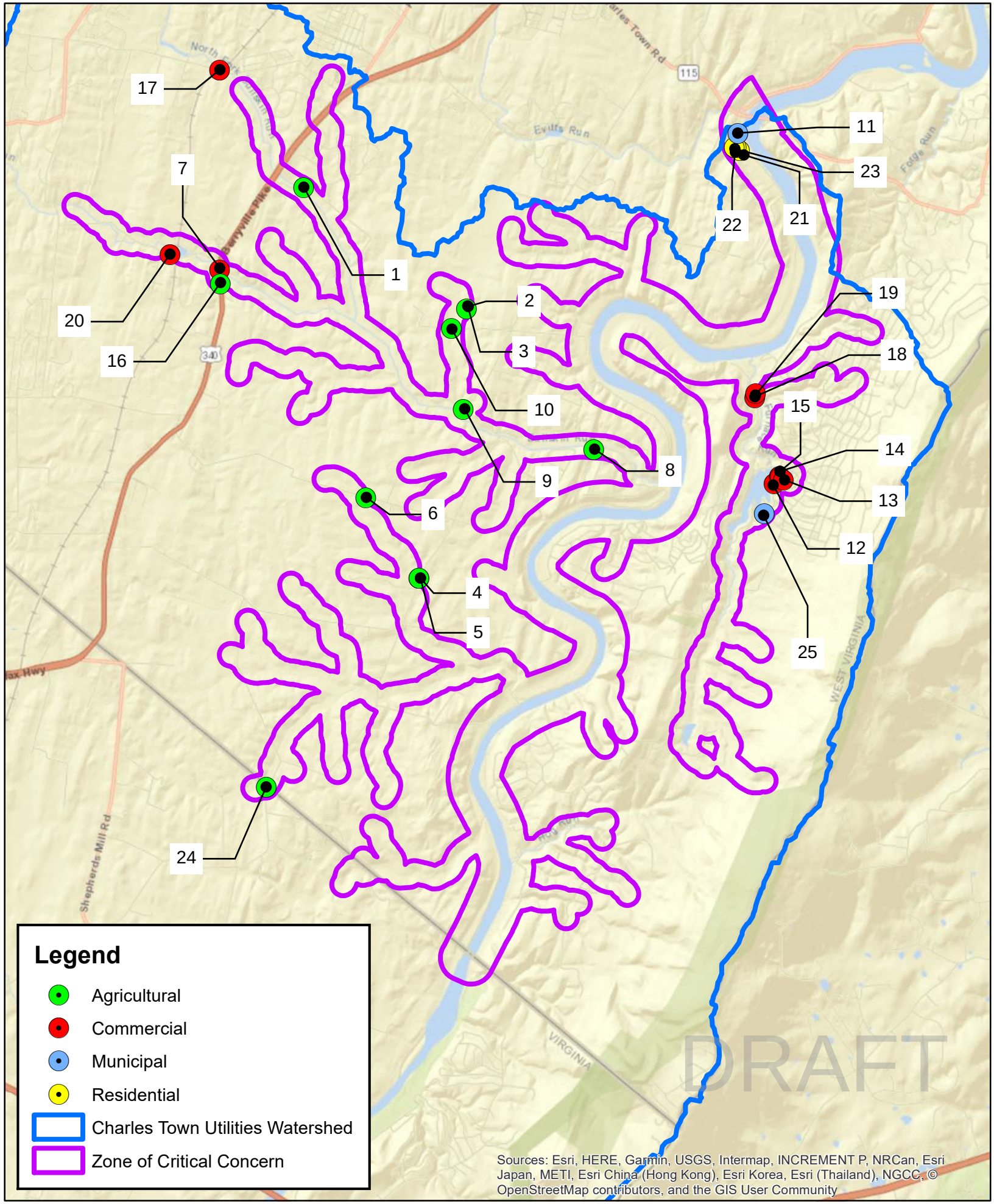
Charles Town Utilities Zone of Peripheral Concern

WV3301905

Jefferson County

TERRADON CORPORATION
Engineering . Land Planning . Surveying . Testing & Inspection

PSSC Maps



Dewberry

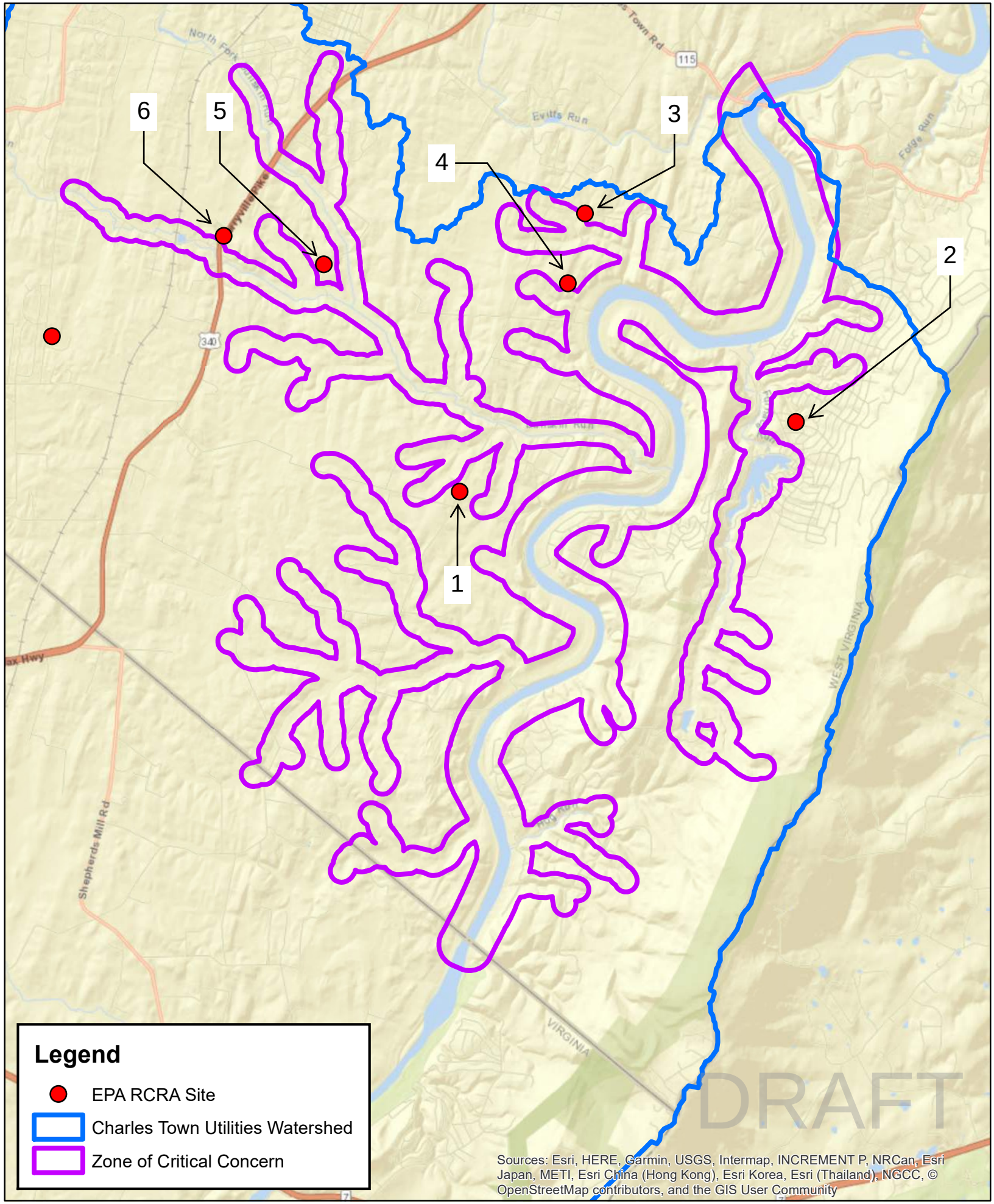
0 0.25 0.5 1 Miles

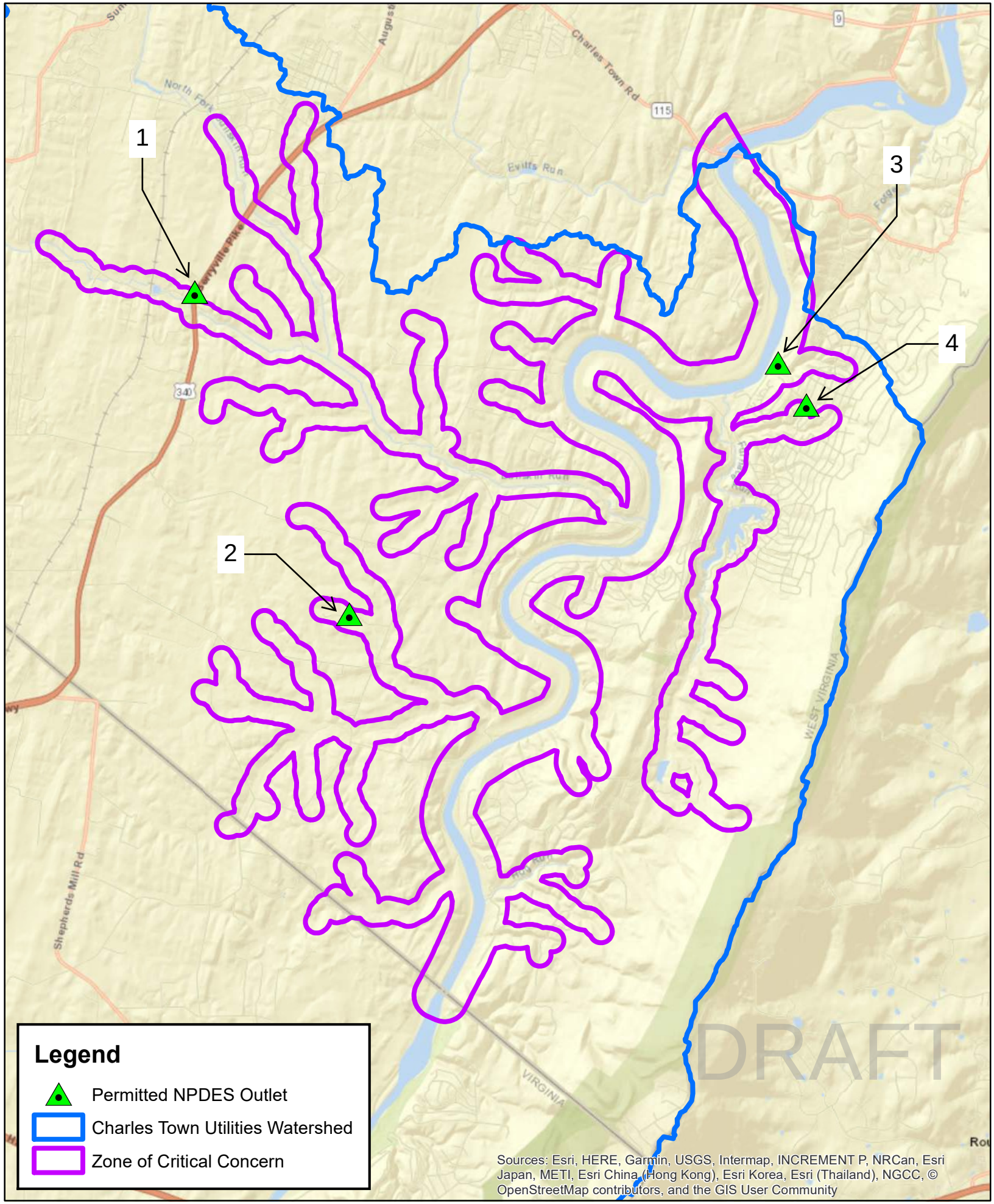
N W E S

DATE: April 2024

TITLE: Unregulated Potential Sources of Contamination

WV3301905 - Jefferson County


6
5
4
3
2
1
Legend
EPA RCRA Site
Charles Town Utilities Watershed
Zone of Critical Concern
DRAFT
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community
Dewberry
0 0.25 0.5 1 Miles
N
W E
S
DATE
April 2024
TITLE
EPA RCRA Sites
WV3301905 - Jefferson County



Dewberry

0 0.25 0.5 1 Miles

N W E S

DATE: April 2024

TITLE: Permitted NPDES Outlet

WV3301905 - Jefferson County

PSSC Lists

Charles Town Utility Board
Source Water Protection Plan
Local & Regional PSSC List - April 2024

PSSC Number	Site Name	Site Description	Source Category	Associated Chemicals	Threat to GW	Threat to SW
1	Pasture	Animal Feedlots	Agriculture	NN MP TO	H	H
2	Crop Fields & Feed Lot	Animal Feedlots	Agriculture	NN MP TO	H	H
3	Crop Fields & Feed Lot	Crops, corn soybeans, wheat	Agriculture	NN MP TO	H	H
4	Cattle Pasture & Small Feed Lot w/Barn	Animal Feedlots	Agriculture	NN MP TO	H	H
5	Soybean Field	Animal Feedlots	Agriculture	NN MP TO	H	H
6	Corn Field	Crops, corn soybeans, wheat	Agriculture	NN SOC MP	L	L
7	Dave's Auto Repair & RV Sales	Car dealership	Commercial	PH VOC	H	L
8	Avon Bend Farm	Drainage Canals	Agriculture	T	L	L
9	Silos and Storage Area on Private Property	Pesticide, fertilizer, petroleum and trans.	Agriculture	PN NN SOC VOC	L	L
10	Oakwood Farm Dairy and Taylor Mountain Farm	Pasture	Agriculture	MP SOC	L	L
11	Water Intake Supply	Other	Municipal	Null	Null	Null
12	Lakeshore Grille and Restaurant	Other	Commercial	Null	Null	Null
13	Old Lake Lodge at Shannondale - Closed	Other	Commercial	Null	Null	Null
14	Old Lake Lodge at Shannondale - Closed	Other	Commercial	Null	Null	Null
15	Old Lake Lodge at Shannondale - Closed	Other	Commercial	Null	Null	Null
16	Wheatland Horse Farm	Pasture	Agriculture	MP SOC	L	L
17	Railroad tracks crossing stream	Railroad tracks and Yards	Commercial	PH M VOC HM SOC	H	H
18	Shannondale Springs Wildlife Management Area	Marina/boat docks	Commercial	PH	L	H
19	Grammy's Place Daycare - closed	Other	Commercial	Null	Null	Null
20	Railroad tracks crossing Bullskin Run near Wheatland	Railroad tracks and Yards	Commercial	PH M VOC SOC	Null	Null
21	Trailer Community	Residential (single family homes)	Residential	VOC SOC NN	H	H
22	House	Septic Systems (leach field)	Residential	MP VOC SOC TO NN	H	H
23	House	Residential (single family homes)	Residential	VOC SOC NN	H	H
24	PCS #12	Crops, corn soybeans, wheat	Agriculture	NN SOC MP	H	H
25	Private Home at 1043 Lakeside Drive	Wells: abandoned	Municipal	VOC SOC MP PH NN	H	L

Charles Town Utility Board
Source Water Protection Plan

EPA RCRA Site PSSC List - April 2024

PSSC Number	Primary Name	Location	City	FIPS Code	HUC Code	Create Date	Update Date
1	Rhodrick Property UST Removal	3178 Kabletown Road	Charles Town	54037	2070007	11/27/2019	NULL
2	John Satterwhite	2 Red Oak Road	Harpers Ferry	54037	2070007	11/27/2019	NULL
3	Mark Cooke Residence	8 Runny Meade Road	Charles Town	54037	2070007	11/27/2019	NULL
4	NU Look Cleaner No. 19	Hillendale Shopping Center	Charles Town	54037	2070007	11/27/2019	NULL
5	Mark Stolipher	1599 Roper North Fork Road	Charles Town	54037	2070007	11/27/2019	NULL
6	W.A. Chester	3607 Berryville Pike	Charles Town	54037	2070007	11/27/2019	NULL

Charles Town Utility Board
Source Water Protection Plan

EPA NPDES Outfalls PSSC List - April 2024

PSSC Number	Permit Number	Facility Name	Description	TC Description	Permit Type	IUT Description	RP Name
1	1003-06-037	Rainbow Diner/Truck Stop	Septic Systems	Renewed	UIC Sewage	Injection Point	340 Rainbow LLC
2	WVSG10026	Snyder Environmental Holdings LLC	Sludge/Septic Land Disposal	Renewed	Sewage	Land/Farm/Field	Snyder Environmental Services, Inc.
3	WVG870001	Black Fly/Gypsy Moth Programs	Pesticide	Renewed	Industrial	Outlet	WV Dept. of Agriculture
4	WVG416832	Pristine Homes LLC	Home Aeration Unit	New	Sewage	Outlet	Pristine Homes LLC

APPENDIX B. EARLY WARNING MONITORING SYSTEM FORMS

Select and Attach the Appropriate Form for Your System

Form A - Complete if you currently have an early warning monitoring system for a groundwater source.

Form B - Complete if you currently have an early warning monitoring system installed for a surface water source.

Form C - If you do not currently have an early warning monitoring system installed for a surface water intake or are planning to upgrade or replace your current system, complete this form.

Form D - If you do not currently have an early warning monitoring system installed for a groundwater source or are planning to upgrade or replace your current system, complete this form.

Note: You may need to fill out and attach more than one form to your Protection Plan, depending on your current situation.

Appendix B - Form B
Proposed Ground Monitoring Worksheet

Describe the type of early warning detection equipment that could be installed, including design:
The Utility has an existing Surface Scatter 6 continuous monitoring system for turbidity in the raw water at the treatment plant. It is possible to upgrade the HACH monitoring equipment to a newer version that would be capable of additional analytical monitoring capacity of pH, conductivity and dissolved oxygen in addition to turbidity. Approximate costs to upgrade would be approximately $15,000
Where would the equipment be located?:
The current HACH Surface Scatter 6 is located at the water treatment plant. However, the Charles Town wet well structure at the intake is an ideal location to install an early warning detection system. The wet well is a cement structure with electrical service and an emergency power backup generator. The monitoring sensors can be installed in the wet well or in-line and the computer telemetry can be located in the pump area, which is elevated above the floodplain. The entire wet well structure is secure with a chain link fence and locked doors.
What would the maintenance plan for the monitoring equipment entail?:
A service contract with HACH would enable an authorized HACH Technician to provide routine service on a quarterly basis to the monitoring equipment. This basic service contract would be approximately $2,000 - $3,000 per year with additional cost for replacement parts, if required.
Describe the proposed sampling plan at the monitoring site:
The online monitoring for pH, conductivity, dissolved oxygen and turbidity would be collected and logged on a 15 minutes interval and saved to the computer. The data would be reviewed by the operator on a daily basis to make adjustments to the treatment process.
Describe the proposed procedures for data management and analysis:
This upgrade would be installed at the water treatment plant in the raw water. Ideally, it would be better to have the raw water monitoring at the intake wet well location. Electronic computer data logging with alarms that can be set for pre-selected thresholds for each parameter. Alarms would alert the operator to a potential problem for further review.

APPENDIX C. COMMUNICATION PLAN TEMPLATE

Charles Town Utilities

PWSID: WV3301905

Authorizing Signature: Daryl Hennessy

Contact Phone Number: (304)724-3280

Contact Email Address: ctwater@thfn.org

Plan Developed On: July 2021

ACKNOWLEDGMENTS:

This plan was developed by [insert name, title of person completing plan, and who they work for] to meet certain requirements of the Source Water and Assessment Protection Program (SWAPP) and the Wellhead Protection Program (WHPP) for the State of West Virginia, as directed by the federal Safe Drinking Water Act (SDWA) and state laws and regulations.

INTRODUCTION

Legislative Rule 64CSR3 requires public water systems to develop a Communication Plan that documents how public water suppliers, working in concert with state and local emergency response agencies, shall notify state and local health agencies and the public in the event of a spill or contamination event that poses a potential threat to public health and safety. The plan must indicate how the public water supplier will provide updated information, with an initial notification to the public to occur no later than thirty minutes after the supplier becomes aware that the spill, release or potential contamination of the public water system poses a potential threat to public health and safety.

The public water system has responsibility to communicate to the public, as well as to state and local health agencies. This plan is intended to comply with the requirements of Legislative Rule 64CSR3, and other state and federal regulations.

TIERS REPORTING SYSTEM

This water system has elected to use the Tiered Incident / Event Reporting System (TIERS) for communicating with the public, agencies, the media, and other entities in the event of a spill or other incident that may threaten water quality. TIERS provides a multi-level notification framework, which escalates the communicated threat level commensurate with the drinking water system risks associated with a particular contamination incident or event. TIERS also includes a procedural flow chart illustrating key incident response communication functions and how they interface with overall event response / incident management actions. Finally, TIERS identifies the roles and responsibilities for key people involved in risk response, public notification, news media and other communication.

TIERS provides an easy-to-remember five-tiered **A-B-C-D-E** risk-based incident response communication format, as described below. Table 1 provides also associated risk levels.

A = **A**nnouncement. The water system is issuing an announcement to the public and public agencies about an incident or event that may pose a threat to water quality. Additional information will be provided as it becomes available. As always, if water system customers notice anything unusual about their water, they should contact the water system.

B = **B**oil Water Advisory. A boil water advisory has been issued by the water system. Customers may use the water for showering, bathing, and other non-potable uses, but should boil water used for drinking or cooking.

C = **C**annot Drink. The water system asks that users not drink or cook with the water at this time. Non-potable uses, such as showering, bathing, cleaning, and outdoor uses are not affected.

D = **D**o Not Use. An incident or event has occurred affecting nearly all uses of the water. Do not use the water for drinking, cooking, showering, bathing, cleaning, or other tasks where water can come in contact with your skin. Water can be used for flushing commodes and fire protection.

E = **E**mergency. Water cannot be used for any reason.

Tier	Tier Category	Risk Level	Tier Summary
A	Announcement	Low	The water system is issuing an announcement to the public and public agencies about an incident or event that could pose a threat to public health and safety. Additional information will be provided as it becomes available.
B	Boil Water Advisory	Moderate	Water system users are advised to boil any water to be used for drinking or cooking, due to possible microbial contamination. The system operator will notify users when the boil water advisory is lifted.
C	Cannot Drink	High	System users should not drink or cook with the water until further notice. The water can still be used for showering, bathing, cleaning, and other tasks.
D	Do Not Use	Very High	The water should only be used for flushing commodes and fire protection until further notice. More information on this notice will be provided as soon as it is available.
E	Emergency	Extremely High	The water should not be used for any purpose until further notice. More information on this notice will be provided as soon as it is available.

COMMUNICATION TEAM

The Communication Team for the water system is listed in the table below, along with key roles. In the event of a spill or other incident that may affect water quality, the water system spokesperson will provide initial information, until the team assembles (if necessary) to provide follow-up communication

Water system communication team members, organizations, and roles.

Team Member Name	Organization	Phone	Email
Daryl Hennessy	Charles Town Utilities	(304)724-3280	ctwater@thfn.org
Pete Kubic	Charles Town Utilities	(304)724-3280	ctwater@thfn.org

In the event of a spill, release, or other incident that may threaten water quality, members of the team who are available will coordinate with the management staff of the local water supplier to:

- Collect information needed to investigate, analyze, and characterize the incident/event
- Provide information to the management staff, so they can decide how to respond
- Assist the management staff in handling event response and communication duties
- Coordinate fully and seamlessly with the management staff to ensure response effectiveness

COMMUNICATION TEAM DUTIES

The communication team will be responsible for working cooperatively with the management staff and state and local emergency response agencies to notify local health agencies and the public of the initial spill or contamination event. The team will also provide updated information related to any contamination or impairment of the source water supply or the system's drinking water supply.

According to Legislative Rule 64CSR3, the initial notification to the public will occur no later than thirty minutes after the public water system becomes aware that the spill, release or potential contamination of the public water system poses a potential threat to public health and safety.

As part of the group implementing the Source Water Protection Plan, team members are expected to be familiar with the plan, including incident/event response and communication tasks. Specifically, team members should:

- Be knowledgeable on elements of the Source Water Protection Plan and Communication Plan
- Attend team meetings to ensure up-to-date knowledge of the system and its functions
- Participate in periodic exercises that "game out" incident response and communication tasks
- Help to educate local officials, the media, and others on source water protection
- Cooperate with water supplier efforts to coordinate incident response communication
- Be prepared to respond to requests for field investigations of reported incidents
- Not speak on behalf of the water supplier unless designated as the system's spokesperson

The primary spokesperson will be responsible for speaking on behalf of the water system to local agencies, the public, and the news media. The spokesperson should work with the management staff and the team to ensure that all communication is clear, accurate, timely, and consistent. The spokesperson may authorize and/or direct others to issue news releases or other information that has been approved by the system's management staff. The spokesperson is expected to be on call immediately when an incident or event which may threaten water quality occurs. The spokesperson will perform the following tasks in the event of a spill, release, or other event that threatens water quality:

- Announce which risk level (A, B, C, D, or E) will apply to the public notifications that are issued
- Issue news releases, updates, and other information regarding the incident/event
- Use the news media, email, social media, and other appropriate information venues
- Ensure that news releases are sent to local health agencies and the public
- Respond to questions from the news media and others regarding the incident/event
- Appear at news conferences and interviews to explain incident response, etc.

INCIDENT / EVENT COMMUNICATION PROCEDURE

The flow chart in this section illustrates how the water system will respond when it receives a report that a spill, release, or other contamination event may have occurred. Key elements of the flow chart are described below.

Communication with agencies, the public, and the media during threat incidents

Upon initial notification of the incident/event, system managers and staff will collect information and verify the need for further investigation. Only properly trained personnel will perform onsite investigations if permitted by emergency responders. If further investigation is warranted, and the initial facts support it, the water system spokesperson will issue a public communication statement consistent with the threat level. In addition, water system personnel and partners will be dispatched to conduct reconnaissance, a threat assessment, and a threat characterization, if present. This work may include:

- Verification of the incident/event type (spill, release, etc.)
- Location of incident/event
- Type of material(s) involved in spill, release, etc.
- Quantity of material involved
- Potential of the material to move, migrate, or be transported
- Relevant time factor(s) in the risk assessment (e.g., downstream movement rate)
- Overall level of risk to water system, whether low, moderate, high, or very high
- Development of the initial risk characterization

As the flow chart indicates, several iterative cycles will occur after the initial threat assessment, including communication with local agencies and the public, further investigation of the incident, possible implementation of

the water system's contingency plan, and eventual elimination of the threat and a return to normal operations. Communication activities during this period will include:

- The initial release (i.e., Announcement, Boil Water Advisory, Cannot Drink, Do Not Use, or Emergency)
  - Sent to local health agencies, the public, and the news media within 30 minutes
- Notification of the local water system's source water protection and communication teams
  - If warranted by initial findings regarding the spill, release, or incident
- Notification of the WV Bureau of Public Health
  - As required
- Periodic information updates, as incident response information is received
- Updates to the applicable A-B-C-D-E advisory tier, as necessary

If time permits and the need arises, after the threat level is reduced, and operations return to normal, the water system staff, the communication and source water protection teams, and their partners may conduct a post-event review and assessment. The purpose of the review is to examine the response to the incident, relevant communication activities, and overall outcomes. Plans and procedures may be updated, altered, or adapted based on lessons learned through this process.

EMERGENCY SHORT FORMS

Emergency Communication Information

	Name	Phone	Email
Designated spokesperson:	Kristen Stolipher	(304)724-7080	kstolipher@ctubwv.com
Alternate spokesperson:	John Nissel	(304)725-2311	jnissel@ctubwv.com
Designated location to disseminate information to media:	Charles Town Utility Board 661 South George Street, Suite 101 Charles Town, WV 25414		
Method of Contact:	Word of Mouth Posted Notices Door-to-door canvasing Radio advertisements. newspaper Auto Dialer		

Media Contacts:	Name	Title	Phone Number	Email
	Bill Kohler, The Herald Mail	Editor	(301)733-5131	billk@herald-mail.com
The Journal		(304)263-8931		Spirit of Jefferson
Publisher	(304)725-2046	editor@spiritofjefferson.com	WRNR Radio	
(304)263-6586	info@talkradiornr.com	WKMZ Radio		(304)263-2770
	WEPM 1340		(304)263-8868	
WYII		(304)263-0637		WHAG Channel 25
	(301)797-4400		WLTF	

Emergency Service Contacts

	Name	Emergency Phone	Alternative Phone	Email
Police	WV State Police	(911)___-____	(304)725-9779	
Fire	Citizens Fire Company	(911)___-____	(304)725-2814	
Ambulance	Jefferson County Ambulance Authority	(911)___-____	(307)283-287_	
Hazmat	Stephen Allen, Director JCOHSEM	(911)___-____	(304)728-3290	sallen@jeffersoncountywv.org
Other	Jefferson County Sheriff, Tom Hansen	(911)___-____	(304)728-3205	thansen@jcsdwv. com
Other	Charles Town Police Department, Chief Chris Kutcher	(911)___-____	(304)725-2714	ckutcher@charlestownwv.us.com

Sensitive Populations

Other Communities that are served by the Utility:	Hospital, Nursing Homes, City of Ranson, Jefferson County Schools, and Charles Town Races			
Major User/Sensitive Population Notification	Name	Emergency Phone	Alternative Phone	Email
	Jefferson Memorial Hospital		(304)728-1600	
	Blue Ridge Care & Rehabilitation Center/Willowtree Manor		(304)725-6575	
	Genesis healthcare/Shenandoah Health Village Center		(304)724-1101	
	City of Ranson Andy Blake City Manager		(304)724-1101	
	Wright Denny School, Charles Town Middle (Jefferson County Schools) Brandon Caton		(304)725-5711	
	Charles Town Races Donald Godfrey		(304)886-9749	
EED District Office Contact	Name	Phone	Email	
	Justin Jordan	(304)725-9453	Justin.e.jordan@wv.gov	
OEHS Readiness Coordinator	Lee Orr	(304)356-4290		

Downstream Water System Contacts	Water System Name	Contact Name	Emergency Phone	Alternate Phone	Email
	City of Brunswick, MD	Patrick Hoffmaster		(301)834-7671	
	City of Fredrick, MD	Ben Arneson (Superintendent of Water Maintenance)		(301)600-1681	susans@cityoffrederick.com
	Sandy Hook Water System	Kim Bowers		(240)313-2600	
	Petersville, MD			(301)834-7500	

Are you planning on implementing the TIER Communications plan?:	Yes

Emergency Service Key Staff Members

	Name	Title	Phone	Email
Key Staff Responsible for Coordinating Emergency Response Rrocedures:		Kristen Stolipher	Utility Manager	(304)724-3280
kstolipher@ctubwv.com	Chris Hutzler	Chief Operator	(304)725-3761	chutzler@ctubwv.com
Staff Responsible for Keeping Confidential PSSC Information and Releasing to Emergency Responders.	Kristen Stolipher	Utility Manager	(304)724-3280	kstolipher@ctubwv.com

Emergency Response Information

List Laboratories available to perform sample analysis in case of emergency.	Name	Phone
	HydroChem Laboratories	(304)725-6174
	Pace Analytical	(877)859-7778
Has utility developed a detailed Emergency Response Plan in accordance with the Public Health Security Bioterrorism preparedness and Response Plan Act of 2002 that covers the following areas?:		Yes
When was the emergency response plan developed or last updated?:		2021

EMERGENCY CONTACT INFORMATION

State Emergency Spill Notification

1-800-642-3074

Office of Emergency Services

http://www.wvdhsem.gov/

Charleston, WV- (304) 558-5380

WV Bureau for Public Health Office of Environmental Health Services (OEHS)

www.wvdhhr.org/oehs

Readiness Coordinator - Lee Orr

Phone: 304-356-4290

Cell: 304-550-5607

E-mail: Lee.E.Orr@wv.gov

Environmental Engineering Division Staff

Charleston, Central Office (304) 558-2981

Beckley, District 1 (304) 256-6666

St. Albans, District 2 (304) 722-0611

Kearneysville, District 4 (304) 725-9453

Wheeling, District 5 (304) 238-1145

Fairmont, District 6 (304) 368-2530

National Response Center - Chemical, Oil, & Chemical/Biological Terrorism

1-800-424-8802

WV State Fire Marshal's Office

1-800-233-3473

West Virginia State Police

1-304-746-2100

WV Watch – Report Suspicious Activity

1-866-989-2824

DEP Distance Calculator

http://tagis.dep.wv.gov/pswicheck/

PRESS RELEASE ATTACHMENTS

TIERS Levels A, B, C, D, and E

UTILITY ISSUED NOTICE – LEVEL A

PUBLIC WATER SYSTEM ANNOUNCEMENT

A WATER SYSTEM INVESTIGATION IS UNDERWAY

On _____ at ___:____ AM/PM, the _____ Water System began investigating an incident that may affect local water quality.

The incident involves the following situation at this location:

_____

_____

_____

There are no restrictions on water use at this time. As always, if water system customers notice anything unusual about their water – such as abnormal odors, colors, sheen, etc. – they should contact the water system at _____.

At this time there is no need for concern if you have consumed or used the water.

Regular updates will be provided about this Announcement as water system staff continue their investigation. Again, there are no restrictions on water use at this time.

State Water System ID# _____ Date Distributed: _____

UTILITY ISSUED NOTICE – LEVEL B

BOIL WATER ADVISORY

A BOIL WATER ADVISORY IS IN EFFECT

On _____ at ___:____ am/pm, a water problem occurred causing contamination of your water. The areas that are affected are as follows:

□ Entire Water System or □ Other: _____

_____

CONDITIONS INDICATE THERE IS A HIGH PROBABILITY THAT YOUR WATER IS CONTAMINATED. TESTING HAS NOT OCCURRED TO CONFIRM OR DENY THE PRESENCE OF CONTAMINATION IN YOUR WATER.

What should I do?

- **DO NOT DRINK THE WATER WITHOUT BOILING IT FIRST.** Bring all water to a boil, let it boil for one minute, and let it cool before using, or use bottled water. Boiled or bottled water should be used for drinking, making ice, brushing teeth, washing dishes, bathing, and food preparation until further notice. Boiling kills bacteria and other organisms in the water.

What happened?

- **The problem is related to** _____

What is being done?

- **The water system is taking the following action:** _____
  _____

What should a customer do if they have consumed or used the water?

- _____

We will inform you when you no longer need to boil your water. We anticipate resolving the problem within _____ hours/days. For more information, please contact _____ at _____ or _____ at _____.

General guidelines on ways to lessen the health risk are available from the EPA Safe Drinking Water Hotline at 1 (800) 426-4791.

Please share this information others who use this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice was distributed by _____

State Water System ID# _____ Date Distributed: _____

UTILITY ISSUED NOTICE – LEVEL C

"CANNOT DRINK" WATER NOTIFICATION

A LEVEL C WATER ADVISORY IS IN EFFECT

On _____ at ___:____ am/pm, a water problem occurred causing contamination of your water. The areas that are affected are as follows:

□ Entire Water System or □ Other: _____

_____

CONDITIONS INDICATE THERE IS A HIGH PROBABILITY THAT YOUR WATER IS CONTAMINATED. TESTING HAS NOT OCCURRED TO CONFIRM OR DENY THE PRESENCE OF CONTAMINATION IN YOUR WATER.

What should I do?

- **DO NOT DRINK THE WATER.** You can't drink the water, but you can use it for showering, bathing, toilet-flushing, and other non-potable purposes.
- **BOILING WILL NOT PURIFY THE WATER.** Do not drink the water, even if it is boiled.

What happened?

- **The problem is related to** _____

What is being done?

- **The water system is taking the following action:** _____
  _____

What should a customer do if they have consumed or used the water?

- _____

We will inform you when the water is safe to drink. We anticipate resolving the problem within _____ hours/days. For more information – or to report unusual water conditions such as abnormal odors, colors, sheen, etc. – please contact _____ at _____ or _____ at _____.

General guidelines on ways to lessen the health risk are available from the EPA Safe Drinking Water Hotline at 1 (800) 426-4791.

Please share this information others who use this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice was distributed by _____

State Water System ID# _____ Date Distributed: _____

UTILITY ISSUED NOTICE – LEVEL D

"DO NOT USE" WATER NOTIFICATION

A LEVEL D WATER ADVISORY IS IN EFFECT

On _____ at ___:____ am/pm, a water problem occurred causing contamination of your water. The areas that are affected are as follows:

□ Entire Water System or □ Other: _____

_____

CONDITIONS INDICATE THERE IS A HIGH PROBABILITY THAT YOUR WATER IS CONTAMINATED. TESTING HAS NOT OCCURRED TO CONFIRM OR DENY THE PRESENCE OF CONTAMINATION IN YOUR WATER.

What should I do?

- **DO NOT DRINK THE WATER.** The water is contaminated.
- **DO NOT SHOWER OR BATHE IN THE WATER.** You can't use the water for drinking, showering, or bathing. It can be used for toilet flushing and firefighting.
- **BOILING WILL NOT PURIFY THE WATER.** Do not use the water, even if it is boiled. The type of contamination suspected is not removed by boiling.

What happened?

- **The problem is related to** _____

What is being done?

- **The water system is taking the following action:** _____

  _____

What should a customer do if they have consumed or used the water?

- _____

We will inform you when the water is safe to drink. We anticipate resolving the problem within _____ hours/days. For more information – or to report unusual water conditions such as abnormal odors, colors, sheen, etc. – please contact _____ at _____ or _____ at _____.

Please share this information others who use this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice was distributed by _____

State Water System ID# _____ Date Distributed: _____

UTILITY ISSUED NOTICE – LEVEL E

EMERGENCY WATER NOTIFICATION

A LEVEL E WATER ADVISORY IS IN EFFECT

On _____ at ___:____ am/pm, a water problem occurred causing contamination of your water. The areas that are affected are as follows:

□ Entire Water System or □ Other: _____

_____

CONDITIONS INDICATE THERE IS A HIGH PROBABILITY THAT YOUR WATER IS CONTAMINATED. TESTING HAS NOT OCCURRED TO CONFIRM OR DENY THE PRESENCE OF CONTAMINATION IN YOUR WATER.

What should I do?

- **DO NOT DRINK THE WATER.** The water is contaminated.
- **DO NOT USE THE WATER FOR ANY PURPOSE!** You can't use the water for drinking, showering, or bathing, or any other use – not even for toilet flushing.
- **BOILING WILL NOT PURIFY THE WATER.** Do not use the water, even if it is boiled. The type of contamination suspected is not removed by boiling.

What happened?

- **The problem is related to** _____

What is being done?

- **The water system is taking the following action:** _____

  _____

What should a customer do if they have consumed or used the water?

- _____

We will inform you when the water is safe to drink. We anticipate resolving the problem within _____ hours/days. For more information – or to report unusual water conditions such as abnormal odors, olors, sheen, etc. – please contact _____ at _____ or _____ at _____.

Please share this information others who use this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice was distributed by _____

State Water System ID# _____ Date Distributed: _____

APPENDIX D. SINGLE SOURCE FEASIBILITY

Water Source Alternative:

Did not complete the alternative source study	
Name of Alternative:	Installed 1,000,000 gallon finished water tank.
Brief Description of the Alternative:	Installed 1,000,000 gallon finished water tank.
Feasible?:	No
Provide Cost Estimate:	$0
Would this alternative supply 100% of your needs?:	No
Economic Criteria - Operation and Maintenance Costs:	0
Economic Criteria - Capital Cost:	0
Technical Criteria - Permitting:	0
Technical Criteria - Flexibility:	0
Technical Criteria - Resilience:	0
Technical Criteria - Institutional Requirements:	0
Environmental Criteria - Environmental Impacts:	0
Environmental Criteria - Aesthetic Impacts:	0
Environmental Criteria - Stakeholder Issues:	0
Final Score:	0.00%

Feasibility Study Narrative

Charles Town Utility Board Feasibility Study Summary

By TERRADON Corporation

TERRADON Corporation was contracted by the Region 9 Economic Development Council to conduct the Feasibility Study for the Charles Town Utility Board (CTUB) Source Water Protection Plan. Sam Wilkes, MS and Jim Nagy, PE of TERRADON conducted an on-site meeting with Jane Arnett (General Manager) and Darrell Viands (Chief Operator) on February 16 and 17, 2016. During our meeting, the basic challenges, difficulties and feasibility of the following options were discussed and evaluated.

- **Backup Raw Water Intake**
  The Millville Quarry, which contains a large freshwater impoundment, is located approximately 3.4 miles northeast of the Charles Town Water Treatment Plant. A new 12" raw water line would need to be constructed between the quarry and the water treatment plant. It would also be necessary to construct an intake structure and raw water pump station at the quarry. The challenges of this option are right of way acquisition and working out an agreement with the quarry, as well as the excessive cost to construct almost three and a half miles of raw water line to the WTP, an intake structure, and raw water pumping station. Due to costs and logistics, this alternative is deemed to be not feasible. Cost of this alternative is estimated to be $1,175,000.

- **Interconnection with Neighboring Public Water Supplies**
  The neighboring public water supplies adjacent to CTUB utilize groundwater as the source of their drinking water, and provide disinfection with chlorine. CTUB on the other hand uses the Shenandoah River as its source and provides disinfection with chloramines. Combining groundwater that has been disinfected with chlorine, with surface water that has been disinfected with chloramines can cause problems in the distribution system. Preliminary discussions with WVDHHR have indicated that there are a number of variables that may need to be addressed, and that it may be necessary to provide treatment at the location of the interconnection to enable blending of water into the system. The additional expense of adding treatment at the location of the interconnection makes this option unfeasible. Therefore, it was not carried any further though the evaluation process. Cost for the actual interconnection itself would be approximately $5,000, and the meter vault be is estimated to be about $25,000. Cost for treatment components that may be required cannot be determined without further investigation.

- **Treated Water Storage**
  Charles Town Utility Board has completed the financing, design and other technical components of establishing a 1M gallon finished water storage tank at the Water Treatment Plant. This capital improvement project is scheduled to go to construction during 2016. This project has been funded at a cost of $865,000 and will satisfy the requirements of Senate Bill 373 by providing the system with 2.4 days of finished water storage. Therefore this option was not evaluated further in this feasibility analysis.

- **Raw Water Storage**
  This scenario examines the feasibility of constructing a raw water impoundment adjacent to the WTP. Raw water from the Shenandoah River would be pumped into the pond, which could be used in the event of a water contamination problem with the Shenandoah River. The pond should be sized to provide approximately 2.5 days of water at the maximum daily usage. Combined with the finished water storage of the system (after the new water storage tank at the WTP is completed), CTUB would be able to avoid withdrawing water from the Shenandoah River for about five days. This should be long enough to get through any conceivable emergency that may occur. Major advantages to this option are that the pond

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would be out of the floodplain, and the existing raw water pumps could be used to fill the pond. Disadvantages to this plan would be the cost of obtaining property next to the WTP, the cost of new raw pumps at the impoundment, and maintaining raw water circulation and quality in the pond. A rough estimate of the cost for this alternative is $950,000.

- **Establish Groundwater Well(s) at the Water Treatment Plant**
  Another option is to install a groundwater well(s) at the water treatment plant that can be used in the event of an emergency. This option has been considered in the past; however, there may be problems with water quantity/quality. It would be necessary to drill a test well in order to determine if this option is viable. Only minor modifications, if any, should be required to the treatment process, keeping in mind that the well(s) would be for emergency use only. The main challenges with this option are if the well or wells will have enough volume to supply the system and the potential for treatment problems if the well water contains arsenic or nitrates. Cost for a test well would be $15,000 to $30,000. Further investigation would be needed in order to cost a production well or wells.

- **Temporary Water Intake on Evitts Run**
  Initially, a temporary emergency water intake on Evitts Run was considered. However, after researching this option further, it was quickly ruled out due to the Charles Town Waste Water Plant being located approximately 4.5 miles upstream along Evitts Run. Public perception and WVDHHR permitting would be the main challenges to this option. This option was not evaluated any further.

The additional 1M gallon treated storage tank will allow Charles Town Utility Board to be compliant with Senate Bill 373 requirements. Based on the feasibility analysis conducted the other alternatives are too costly, as well as technically challenging to warrant implementation at this time. Continuing to work on improvements to the distribution system to reduce unaccounted for water is the next most cost effective solution (after construction of the additional finished water storage) to provide further system reliability. However, as system demand increases the raw water storage option, as well as the interconnection, should be evaluated further to provide CTUB with other alternatives to meet their needs.

Matrix Document

Feasibility Matrix Charles Town Utilities PWSID: WV3301905 Date: 42501 Completed By: James Nagy, PE; TERRADON Corporation

Alternative Strategy Description	Economic Criteria				Technical Criteria								Environmental Criteria							Final Score	Total Capital Cost	Comments
	Operation and Maintenance Costs	Capital Costs	Total	Total %	Weighted Total	Permitting	Flexibility	Resilience	Institutional Requirements	Total	Total %	Weighted Total	Environmental Impacts	Aesthetic Impacts	Stakeholder Issues	Total	Total %	Weighted Total				
Backup Intake	1.0	0.0	1.0	16.7%	6.7%	1.6	1.5	2.0	2.3	7.4	61.9%	24.8%	3.0	3.0	2.0	8.0	88.9%	17.8%		49.2%	##########	This is a backup emergency intake at Millville Quarry with approximatley 17,500 feet of raw water main to the WTP.
Interconnect	1.0	1.0	2.0	33.3%	13.3%	2.0	0.0	2.0	3.0	7.0	58.3%	23.3%	3.0	2.5	3.0	8.5	94.4%	18.9%		55.6%	$30,000.0	Neighboring systems are groundwater systems. It may be difficult to mix surface and groundwater within the distribution system.
Treated water storage	3.0	3.0	6.0	100.0%	40.0%	3.0	3.0	3.0	3.0	12.0	100.0%	40.0%	3.0	3.0	3.0	9.0	100.0%	20.0%		100.0%	$865,000.0	Charles Town is in the process of adding 1M gallons of additional storage at the Treatment Plant. This project has been bid and should be go to construction in 2016.
Raw Water Storage	2.0	2.0	4.0	66.7%	26.7%	2.0	2.0	1.7	2.0	7.7	63.9%	25.6%	3.0	2.5	1.3	6.8	75.9%	15.2%		67.4%	$950,000.0	This is a reasonable alternative however property acquisition could be a barrier.
Well(s) at Water Treatment Plant	2.0	1.0	3.0	50.0%	20.0%	2.0	2.0	2.0	3.0	9.0	75.0%	30.0%	3.0	3.0	3.0	9.0	100.0%	20.0%		70.0%	$30,000.0	Further investigation would be needed in order to determine if this alternative is practical.

Scoring:

0 – Not feasible. Criterion cannot be met by this alternative and removes the alternative from further consideration.
1 – Feasible but difficult. Criterion represents a significant barrier to successful implementation but does not eliminate it from consideration.
2 – Feasible. Criterion can be met by the alternative.
3 – Very Feasible. Criterion can be easily met by the alternative

Feasibility Matrix Charles Town Utilities PWSID: WV3301905 11-May-16 Matrix Completed By: James Nagy, PE; TERRADON Corporation

Criteria	Question	Backup Intake	Feasibility	Interconnect	Feasibility	Treated Water Storage	Feasibility	Raw Water Storage	Feasibility	Well(s) at Water Treatment Plant	Feasibility
Economic Criteria											
What is the total current budget year cost to operate and maintain the PWSU (current budget year)?		$1,934,835.00		$1,934,835.00		$1,934,835.00		$1,934,835.00		$1,934,835.00	
O and M Costs	Describe the major O&M cost requirements for the alternative?	Periodic maintenance of raw water pump station, intake line, and raw water main to WTP	1	Periodic maintenance of point of use treatment facilities	1	This alternative is being implemented in 2016	3	Periodic maintenance of pond and raw water pumps	2	Periodic maintenance of well pump(s)	2
	What is the incremental cost ($/gal) to operate and maintain the alternative?	$0.05	1	$0.05	1	$0.01	3	$0.05	2	$0.05	2
	Cost comparison of the incremental O&M cost to the current budgeted costs (%)	0.00%	1	0.00%	1	0.00%	3	0.00%	2	0.00%	2
O and M-Feasibility Score			***1.0***		***1.0***		***3.0***		***2.0***		***2.0***
Describe the capital improvements required to implement the alternative.		Construct raw water intake, pumping station, and raw water main to WTP		Construct interconnection and provide treatment required to blend water		Construct a 1.0 MG water storage tank and associated piping to existing clearwell.		Construct impoundment and raw water pumps.		Construct test well and production well(s)	
Capital Costs	What is the total capital cost for the alternative?	$1,750,000.00	0	$30,000.00	1	$865,000.00	3	$950,000.00	2	$30,000.00	1
	What is the annualized capital cost to implement the alternative, including land and easement costs, convenience tap fees, etc. ($/gal)	$0.00	0	$0.00	1	$0.00	3	$0.00	2	$0.00	1
	Cost comparison of the alternatives annualized capital cost to the current budgeted costs (%)	0.00%	0	0.00%	1	0.00%	3	0.00%	2	0.00%	1
Capitol Cost-Feasibility Score			***0.0***		***1.0***		***3.0***		***2.0***		***1.0***
Technical Criteria											
Permitting	Provide a listing of the expected permits required and the permitting agencies involved in their approval.	WVDHHR permit for temporary secondary intake / WVDEP water withdrawal permit / WVDOH permit for crossing ROW / USACE stream	1	WVDHHR permit	2	BPH Construction Permit and PSC Certificate of Convenience and Necessity	3	BPH Construction Permit and PSC Certificate of Convenience and Necessity	2	BPH Construction Permit and PSC Certificate of Convenience and Necessity	2
	What is the timeframe for permit approval for each permit?	WVDHHR 1 month WVDEP 2 months WVDOH 1 month USACE 1 month	1	1 month minimum	2	Project has already been approved, advertised, and construction bids have been received.	3	BPH Permit - 1 month; PSC Certificate - 4 months	2	BPH Permit - 1 month; PSC Certificate - 4 months	2
	Describe the major requirements in obtaining the permits (environmental impact studies, public hearings, etc.)	None	1	None	2	NA - permit and certificate have already been obtained.	3	NA	2	NA	2
	What is the likelihood of successfully obtaining the permits?	Somewhat likely -- pre-approval should be obtained from all impacted agencies	2	Fair	2	NA - permit and certificate have already been obtained.	3	Good	2	Good	2
	Does the implementation of the alternative require regulatory exceptions or variances?	No	3	Unknown	2	No	3	No	2	No	2
Permitting-Feasibility Score			***1.6***		***2.0***		***3.0***		***2.0***		***2.0***
Flexibility	Will the alternative be needed on a regular basis or only used intermittently?	Emergency use only	2	Emergency use only	0	Regular Basis	3	Periodically	2	Periodically	2
	How will implementing the alternative affect the PWSU's current method of treating and delivering potable water including meeting Safe Drinking Water Act regulations? (ex. in the case of storage, will the alternative increase the likelihood of disinfection byproducts?)	Pump water from quarry to treatment plant. No other changes to treatment	1	Neighboring systems are groundwater systems. It may be difficult to mix surface and groundwater within the distribution system.	0	Not anticipated to increase byproducts	3	NA	2	NA	2
Flexibility-Feasibility Score			***1.5***		***0.0***		***3.0***		***2.0***		***2.0***

Criteria	Question	Backup Intake	Feasibility	Interconnect	Feasibility	Treated Water Storage	Feasibility	Raw Water Storage	Feasibility	Well(s) at Water Treatment Plant	Feasibility
Resilience	Will the alternative provide any advantages or disadvantages to meeting seasonal changes in demand?	No	3	No	2	Yes	3	Yes	2	Yes	3
	How resistant will the alternative be to extreme weather conditions such as drought and flooding?	No, this emergency intake will be vulnerable to extreme weather and potential vandalism	1	NA	2	Resistant	3	Resistant	2	Somewhat resistant	2
	Will the alternative be expandable to meet the growing needs of the service area?	No	2	NA	2	Additional finished water storage can easily be added as necessary to meet demand	3	Yes	1	Unknown	1
Resilience-Feasibility Score			*2.0*		*2.0*		*3.0*		*1.7*		*2.0*
Institutional Requirements	Identify any agreements or other legal instruments with governmental entities, private institutions or other PWSU required to implement the alternative.	None	3	NA	3	None	3	Unknown	2	None	3
	Are any development/planning restrictions in place that can act as a barrier to the implementation of the alternative.	Unknown	2	NA	3	No	3	Unknown	2	No	3
	Identify potential land acquisitions and easements requirements.	Land acquisition and easements for intake, pumping station, and raw water pipeline	2	NA	3	None	3	Land acquisition would be necessary	2	None	3
Institutional Requirements-Feasibility Score			*2.3*		*3.0*		*3.0*		*2.0*		*3.0*
Environmental Criteria											
Environmental Impacts	Identify any environmentally protected areas or habitats that might be impacted by the alternative.	None	3	NA	3	None	3	None	3	None	3
Environmental Impacts-Feasibility Score			*3.0*		*3.0*		*3.0*		*3.0*		*3.0*
Aesthetic Impacts	Identify any visual or noise issues caused by the alternative that may affect local land uses?	Minimal	3	NA	2	Slight visual impact	3	Slight visual impact	2	None	3
	Identify any mitigation measures that will be required to address aesthetic impacts?	Potential stream crossings	3	NA	3	None	3	None	3	None	3
Aesthetic Impacts-Feasibility Score			*3.0*		*2.5*		*3.0*		*2.5*		*3.0*
Stakeholder Issues	Identify the potential stakeholders affected by the alternative.	Landowners and DOH	2	NA	3	None	3	Adjacent property owner(s)	2	NA	3
	Identify the potential issues with stakeholders for and against the alternative.	None	2	NA	3	None	3	Unknown	1	NA	3
	Will stakeholder concerns represent a significant barrier to implementation (or assistance) of the alternative?	No	2	NA	3	No	3	Unknown	1	NA	3
Stakeholder Issues-Feasibility Score			*2.0*		*3.0*		*3.0*		*1.3*		*3.0*
Comments		This is a backup emergency intake at Millville Quarry with approximatley 17,500 feet of raw water main to the WTP.		Neighboring systems are groundwater systems. It may be difficult to mix surface and groundwater within the distribution system.		Charles Town is in the process of adding 1M gallons of additional storage at the Treatment Plant. This project has been be bid and should be go to construction in 2016.		This is a reasonable alternative however property acquisition could be a barrier.		Further investigation would be needed in order to determine if this alternative is practical.	

Instructions: Using the expanded instructions in the "FEASIBILITY STUDY GUIDANCE DOCUMENT", complete the white and gray input cells. Rank each criteria based on the evidence provided and best professional judgement. Rank the criteria 0-3, assuming 0=not feasible and 3=most feasible. The password to edit fillable cells is "swap".

Scoring:

0 – Not feasible. Criterion cannot be met by this alternative and removes the alternative from further consideration.

1 – Feasible but difficult. Criterion represents a significant barrier to successful implementation but does not eliminate it from consideration.

2 – Feasible. Criterion can be met by the alternative.

Criteria	Question	Backup Intake	Feasibility	Interconnect	Feasibility	Treated Water Storage	Feasibility	Raw Water Storage	Feasibility	Well(s) at Water Treatment Plant	Feasibility

3 – Very Feasible. Criterion can be easily met by the alternative

APPENDIX E. SUPPORTING DOCUMENTATION

SEWER STRATEGIC PLAN
DRAFT

2024-2027

CHARLES TOWN UTILITY BOARD

661 South George Street, Suite 101
Charles Town, West Virginia 25414

Phone: (304) 725-2316
Email: info@ctubwv.com

Charles Town Utility Board (CTUB)
Sewer Strategic Plan
2024-2027

Adopted:

_____

BOARD OF DIRECTORS

John Nissel, **Chairman**, City of Charles Town City Manager

Keith D. Pierson, **Vice Chairman**, City of Ranson Mayor, City of Ranson Representative

Thomas Stocks, **Treasurer**, City of Charles Town Representative

Jeff Whitten, City of Charles Town Representative

Heidi Parker, Jefferson County Representative

Tricia Jackson, Jefferson County Commission Liaison

CTUB MANAGEMENT

Kristen M. Stolipher, Utility General Manager – kstolipher@ctubwv.com

April L. Shultz, Assistant Utility Manager – ashultz@ctubwv.com

EXECUTIVE SUMMARY

Purpose

The purpose of this Sewer Strategic Plan (SSP) is to document the Charles Town Utility Board's (CTUB) existing wastewater collection and treatment system to establish a plan for conveyance of all wastewater that will be generated within the region to the CTUB wastewater treatment plants during current and future periods of growth. The plan will evaluate future improvements needed and implementation strategies both physically and financially. Another major purpose of this SSP is the identification of wastewater peak flows and the evaluation of the capacity of the existing collection and conveyance system to convey these peak flows without backups of wastewater into homes and businesses and without sanitary sewer overflows. The City of Charles Town, by and through CTUB first published a SSP in 2007. The most recent revision to the SSP was approved by CTUB on April 28, 2021. Pursuant to a resolution for a tri-annual SSP update, the current revision serves as the required April 2024 update. The SSP is adopted by the CTUB Board of Directors. Upon adoption, development of actions to implement the SSP can begin. The SSP provides an overall high-level direction to prioritize resources and achieve future success.

Since the adoption of the last SSP, CTUB, through the City of Charles Town, has successfully equalized the sewer rates between the City of Charles Town sewer system, the City of Ranson Sewer System and the Jefferson County Public Service District subsequent to the utility consolidation efforts that occurred on July 1, 2018 and January 1, 2019, respectively. The equalization of rates took place almost 5 years earlier than anticipated. The wastewater treatment and collection systems of the consolidated regional utility are reviewed herein. Significant growth has occurred since the last plan and will be steadily monitored to ensure that appropriate measures are taken to address future capital improvements, operation and maintenance as well as capacity needs. Growth projections are included in this SSP, and will be, in part, considered in determining the timing of those future capital improvements. Communication with local planning and zoning authorities to acquire accurate growth projections is essential for successful monitoring of growth. This plan details the growth within the system based on growth projections provided by the local planning and zoning agencies.

Scope

The principal issues examined as part of this revision to the SSP include the following:

- Customer satisfaction and public education
- Analyze growth scenarios and develop plant and collection system expansion needs.
- Evaluate the existing wastewater collection system and treatment process in relation to future flows, loads and discharge standards.
- Assess system improvement needs, including capital costs and O&M requirements.
- Develop timeframes associated with necessary system improvements to encompass the plants and collection system.
- Update planning for future sewerage facilities to serve existing and expanded service area.

Plan Updates

CTUB has committed to updating this document on a tri-annual basis. Adjustments to the SSP are based on the condition and performance of the overall system, updated construction data and new information regarding growth. Previously published SSP's serve as guidance to achieve accuracy in planning and to enhance the development of current and historical data. The accuracy of the planning process continues to be enhanced through the development of current data and historical data captured in previous SSP's. CTUB makes every effort to involve customers, officials and stakeholders in this process.

Tri-annual updating is expected to proceed in accordance with the following schedule:

- February New data, information, and comments solicited from stakeholders
- March Plan updated.
- April Board of Directors review DRAFT SSP
- May Draft Plan issued for comments
- May/June Plan revised, adopted and published

Project Planning

This SSP serves as a framework for decision making outlining the specific goals, strategies and objectives for the purpose of planning for future capital improvements based on a 10-year planning period from 2024 to the year 2034. Since the last SSP was adopted, CTUB has initiated the Renewal and Replacement project detailed in the prior SSP. CTUB awarded the project to Alvarez Contractors, Inc. in September 2022 for the construction of the Renewal and Replacement Project at the Charles Town Wastewater Plant. The project will replace critical equipment and aging infrastructure which will allow CTUB operations staff to be more efficient and have additional controls over the operation of the wastewater plant. There are also numerous collection system projects that are currently designed or in design that will address improved efficiencies and upgrade or decommission pump stations to reduce operation and maintenance costs. Based on analysis of available information the following recommendations outline projected near and long-term improvements:

- **Charles Town Wastewater plant**
  - Completion of Renewal and Replacement project
    - Expected to be completed by December 2024.
  - Sand Filters
    - Assessment of Sand Filters (completed December 2023).
    - Implementation of sand filter assessment and successful operation.
  - Future - Expansion of CTWWTP from 1.75 MGD
  - Water Treatment Plant Forcemain Tie-in Project

- **Tuscawilla Wastewater Treatment Plant (TWWTP)**
  - Assessment and possible installation of secondary MBR's.
  - Future – Expansion from 500,000 gpd and/or alternatives analysis

- **Completion of the 2025 Collection System Project (formerly JCPSD Flowing Spring project)**
- **Collection system projects:**
  - George/North/Liberty/Charles Gravity replacement
  - 6th Avenue/Reymann Gravity replacement
  - Mountaineer Pump Station Rehabilitation
  - Wilt's Mobile Home Park Pump Station Decommissioning
  - Belvedere Farm Pump Station Decommissioning

Project Recommendations

Critical infrastructure upgrades will be detailed in this SPP. This will include a review of completed projects and future capital improvements. Since the last version of the SSP several key projects have started construction and others are moving through the design phase. In addition to the system wide improvements, it is necessary to begin planning and engineering for expansion of the CTWWTP in the next 10 years.

Financial

The projected costs associated with the projects outlined above are detailed in this plan. CTUB recently completed the full rate equalization in January 2024. This was a significant accomplishment almost 5 years ahead of schedule. As part of the rate equalization process, CTUB completed a Class Cost of Service Study to assess rates for all customer classes. CTUB will continue to review this every 3 to 5 years to ensure rates are fair, equitable and consistent with the cost of service. CTUB continues to pursue a strategy for funding upgrades, and expansions in a manner that will minimize the burden to the current and future ratepayers. The Board intends to fund the costs for the renewal and replacement project and the facility expansions through conventional rate impacts, payment of prior bonds and Capacity Improvement Fees (CIFs). The CTWWTP and TWWTP Phase 2 Upgrade to 1.0 MGD will require separate funding strategies in a future SSP publication. If the current sewer rates are insufficient to generate funds prior to the next phase of expansion, the City can consider increasing rates to defray the capital costs.

INTRODUCTION

Background

The Mission of the Charles Town Utility Board (CTUB) is to provide reliable water and sewer services that protect public health and the environment with financial accountability, regional stewardship, and superior customer service. Specific goals and key areas of focus are:

Customer Service – Provide efficient and effective level of service to meet customer and stakeholder expectations.

Environmental Stewardship – Take advantage of opportunities to invest in energy efficiency, renewable energy, water and sustainable practices that protect the environment. Meet all applicable regulatory notification and reporting requirements.

Infrastructure Maintenance – Properly manage, operate and maintain all parts of the wastewater collection system and provide best service in a cost-effective manner to the customer.

Financial Stability – Manage the CTUB finances to support the Utility needs and maintain reasonable sewer rates.

Workforce Planning and Development – Provide team-oriented workforce that is fully trained, fairly compensated, and accountable with clearly defined career paths for the evolving work environment.

Operational Optimization – Improve functions that support the administrative, financial, technical and field activities and provide the best service to the customer.

CTUB is a combined water and sewer utility that provides sanitary sewerage collection and treatment services for approximately 8,900 sewer customers comprising residential, commercial, industrial and public authority entities within the municipalities of the City of Charles Town, the City of Charles Town as well as the surrounding areas within Jefferson County. The County has a population of just under 60,000 and encompasses 212 square miles.

CTUB has a five (5) member Board of Directors that meets twice monthly to consider issues of substance for Utility operations, making recommendations to the Utility Manager regarding infrastructure management, finances and other policy questions. Subsequent to the Utility consolidation, the Board of Directors has representation from the City of Ranson and Jefferson County (including a voting member and non-voting County Commission liaison). The Board of Directors are appointed by the Mayor and Council of the City of Charles Town and serve staggered four-year terms. In addition to the appointment of the Board of Directors, the City of Charles Town is responsible for the following as it pertains to CTUB:

1) Retains ownership of the assets of the system
2) Authorization of all changes in rates and charges for the water and sewer system
3) Issuance of bonds, notes and other debt obligations secured by the gross revenues of the system
4) Approval of capital projects for the water and sewer system which are not in the "normal course of business"; and
5) Approval of real property condemnations for the System.

CTUB has 31 full-time employees, 2 part-time employees and a sewer operating budget of roughly $6 million annually. Infrastructure assets include three (3) wastewater treatment plants, 125 miles (over 100 miles of gravity and over 25 miles of force main) and 43 pump stations. CTUB has the ability to treat flows interchangeably between the CTWWTP and TWWTP facilities through the Huntfield Transfer Pump stations.

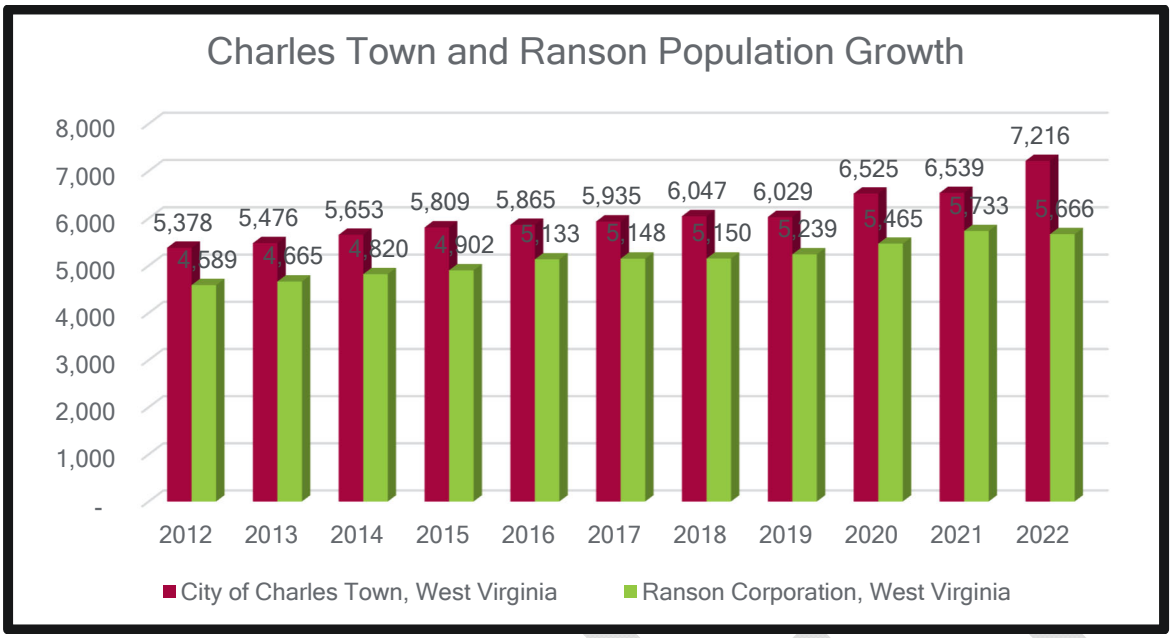
Facilities Plan Summary

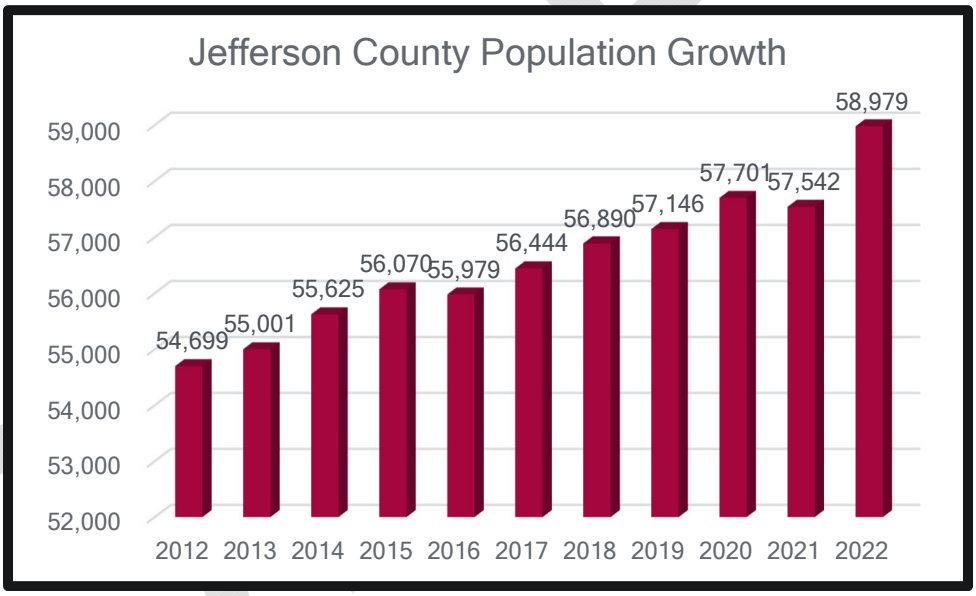
The period used for planning efforts for the Renewal and Replacement projects and 2021 collection system projects are based on a 10-year planning period. This period is the basis for evaluating population growth, estimating treatment capacity requirements, operational needs and evaluating treatment process alternatives. The overall planning period extends from 2024 to 2034 which includes short-term and long-term planning objectives. CTUB has completed the first steps in establishing a sewer-modeling efforts to assist with development of updated capacity improvement fees requirements and capital improvement projects for the next 15 years. Any capital projects identified in the sewer master plan will be included in future SSP's.

EXISTING CONDITIONS

Regional Growth and Service Area

The City of Charles Town, City of Ranson and Jefferson County have continued to experience consistent growth since the issuance of the last SSP. A demonstrated in the charts below, the growth rates in the region have maintained a steady 1% growth increase on an annual basis:





Reference: Annual Estimates of the Resident Population for Incorporated Places in West Virginia: April 1, 2020 to July 1, 2022 (SUB-IP-EST2022-POP). Source: U.S. Census Bureau, Population Division, Release Date: May 2020.

The City of Charles Town, City of Ranson and the Jefferson County Department of Planning, Zoning and Engineering have provided information regarding permits obtained since the issuance of the last SSP. Table 1.1 illustrates the past three years of residential and commercial development data. This historical data shows that an average of 490 residential units were built per year which is significantly up from the average of 129 residential units built per year from the prior reporting period (2018 to 2020).

Table 1.1 - Development Growth Trend 2021-2023

			New Connections		
Region	**Subdivision**	**Type**	**2021**	**2022**	**2023**
County	Aspen Greens	Residential	0	12	26
County	Beallair	Residential	16	22	16
County	Walnut Grove	Residential	1	1	2
County	Burr Park	Commercial	4	5	2
County	Cambridge	Residential	4	3	1
County	Woodland MHP	Residential	0	0	2
County	Tuscawilla	Residential	1	0	0
County	Kings Crossing	Residential	0	0	27
County	Magnolia Springs	Residential	116	88	71
Charles Town	CT Limits	Commercial	0	1	0
Charles Town	CT Limits	Residential	5	16	18
Charles Town	Washington Landing	Residential	61	26	25
Charles Town	Tate Manor	Residential	29	34	17
Charles Town	Huntfield	Residential	0	43	84
Charles Town	Norborne Glebe	Residential	1	115	155
Ranson	Ranson Limits	Commercial	0	0	2
Ranson	Ranson Limits	Residential	2	5	3
Ranson	President's Pointe	Residential	6	28	106
Ranson	Shenandoah Springs	Residential	0	28	61
Ranson	Briar Run	Residential	4	0	0
Ranson	Huntwell West	Residential	0	0	26
Ranson	Potomac Marketplace	Commercial	0	0	2
Ranson	Jefferson Crossing	Residential	37	43	84
Total Residential Building Permits			**283**	**464**	**724**
Total Commercial Building Permits			**4**	**6**	**6**

Future Development Projections

In addition to the historical information that was provided, future development forecasts were obtained from the City of Charles Town, City of Ranson and Jefferson County Department of Planning Zoning and Engineering that will be monitored to determine necessary improvements to the sewer system. For the purposes of these future projections an average annual build-out of 30 units per year for larger subdivisions/developments is being used for those developments that have surpassed the Concept Plan stage. For those developments that have not entered the design phase but may still come to fruition, a projection of an average built-out of 20 units per year is being used. These averages are based on the most recent historical trends of building within the County. These projections may vary depending on various economic factors such as growth and development trends. Details of the projections are presented in Table 1.2 and known historical data has been utilized for future volumetric capacity forecasting. A full copy of the Development Forecast is included in Appendix A. Refer to Exhibit 1-2 in Appendix C for the location of projected developments.

The housing market in the region has experienced tremendous growth over the past three years and continues in an upward trend with several large housing developments currently under construction. Commercial growth has also seen significant upward trends since the development of the last SSP.

Table 1.2 -CTUB Sewer Strategic Plan 2024 Development Forecast

	Development	Total Design EDUs	Total Built as of 2024	20 year forecast to be built	Total Flow	Beyond 20 year forecast	Year 1 2024	Year 2 2025	Year 3 2026	Year 4 2027	Year 5 2028	Year 6 2029	Year 7 2030	Year 8 2031	Year 9 2032	Year 10 2033	Years 11-20 2034-2043	TOTAL @ Year 20	TOTAL REMAINING
1	Aspen Green	203	85	118	30,450	0	30	30	30	28	0	0	0	0	0	0	0	118	0
2	Beallair	372	176	196	55,800	0	30	30	30	30	30	30	16	0	0	0	0	196	0
3	Blackford Village/Tackley Mill	500	0	500	75,000	0	0	0	0	0	0	0	0	20	20	20	200	260	240
4	Briar Run	164	126	38	24,600	0	30	8	0	0	0	0	0	0	0	0	0	38	0
5	Burr Industrial Park & Bardane	200	178	22	30,000	0	3	3	3	3	3	3	3	1	0	0	0	22	0
6	Cambridge	134	92	42	20,100	0	3	3	3	3	3	3	3	3	3	3	12	42	0
7	Cantor Hollow	124	0	124	18,600	0	0	0	30	30	30	34	0					124	0
8	Charles Town Infill	250	38	212	37,500	112	5	5	5	5	5	5	5	5	5	5	50	100	112
9	Clayhill Farm	300	0	300	45,000	0	0	0	0	0	0	20	20	20	20	20	200	300	0
10	Country Club Commons	8	0	8	1,200	0	0	0	1	1	1	1	1	1	1	1	0	8	0
11	Fairview	450	0	450	67,500	0	0	0	30	30	30	30	30	30	30	30	210	450	0
12	Harvest Hills	392	6	386	58,800	166	0	0	0	0	0	0	0	0	0	20	200	220	166
13	Huntfield	3,200	554	2,646	480,000	2,046	30	30	30	30	30	30	30	30	30	30	300	600	2046
14	Huntwell West	350	26	324	52,500	0	30	30	30	30	30	30	30	30	30	30	24	324	0
15	Jefferson Orchards	888	0	888	133,200	688	0	0	0	0	0	0	0	0	0	0	200	200	688
16	Kable Townhomes	22	0	22	3,300	0	0	22	0	0	0	0	0	0	0	0	0	22	0
17	King's Crossing	404	58	346	60,600	0	30	30	30	30	30	30	30	30	30	30	46	346	0
18	Locust Knoll	300	0	300	45,000	0	0	0	20	20	20	20	20	20	20	20	140	300	0
19	Magnolia Springs	300	259	41	45,000	0	41	0	0	0	0	0	0	0	0	0	0	41	0
20	Norborne Glebe	1,050	626	424	157,500	0	30	30	30	30	30	30	30	30	30	30	124	424	0
21	Old Town Ranson - Infill	250	10	240	37,500	90	10	10	10	10	10	10	10	10	10	10	50	150	90
22	Orchard Springs	270	0	270	40,500	0	0	30	30	30	30	30	30	30	30	30	0	270	0
23	Potomac Marketplace	54	2	52	8,100	0	5	5	5	5	5	5	5	5	5	5	2	52	0
24	President's Pointe	1,100	233	867	165,000	267	30	30	30	30	30	30	30	30	30	30	300	600	267
25	Prospect Place	170	0	170	25,500	0	0	0	0	0	9	9	25	25	25	25	52	170	0
26	Ranson Gateway / Boulevard	1,175	0	1,175	176,250	815	0	0	20	20	20	20	20	20	20	20	200	360	815
27	Ranson Heights	428	0	428	64,200	0	30	30	30	30	30	30	30	30	30	30	128	428	0
28	Red Clover Meadows (formerly Lloyd Property)	258	0	258	38,700	0	30	30	30	30	30	30	30	30	18	0	0	258	0
29	Shenandoah Springs	705	285	420	105,750	0	30	30	30	30	30	30	30	30	30	30	120	420	0
30	Spring Hill	588	0	588	88,200	48	0	0	30	30	30	30	30	30	30	30	300	540	48
31	Stonecrest	320	0	320	48,000	0	30	30	30	30	30	30	30	30	30	30	20	320	0
32	Stone Spring (formerly Fritts Property)	328	0	328	49,200	0	30	30	30	30	30	30	30	30	30	30	28	328	0
33	Washington Landing	274	204	70	41,100	0	70	0	0	0	0	0	0	0	0	0	0	70	0
34	Windmill Crossing	150	146	4	22,500	0	1	1	1	1	0	0	0	0	0	0	0	4	0
35	Lakeland Place	464	0	464	69,600	0	0	0	30	30	30	30	30	30	30	30	224	464	0
36	Shoemaker Property	300	0	300	45,000	0	0	0	30	30	30	30	30	30	30	30	60	300	0
37	WVU Medical	500	0	500	75,000	50	0	0	0	0	0	30	30	30	30	30	300	450	50
38	Hillside	150	0	150	22,500	0	0	30	30	30	30	30	0	0	0	0	0	150	0
39	Vinton Property	300	0	300	45,000	0	0	0	30	30	30	30	30	30	30	30	60	300	0
	Total Projected Development	**16,145**	**3,104**	**14,291**	**2,541,750**	**4,232**	**528**	**447**	**548**	**546**	**526**	**550**	**518**	**520**	**507**	**509**	**3,130**	**8,569**	**4,472**

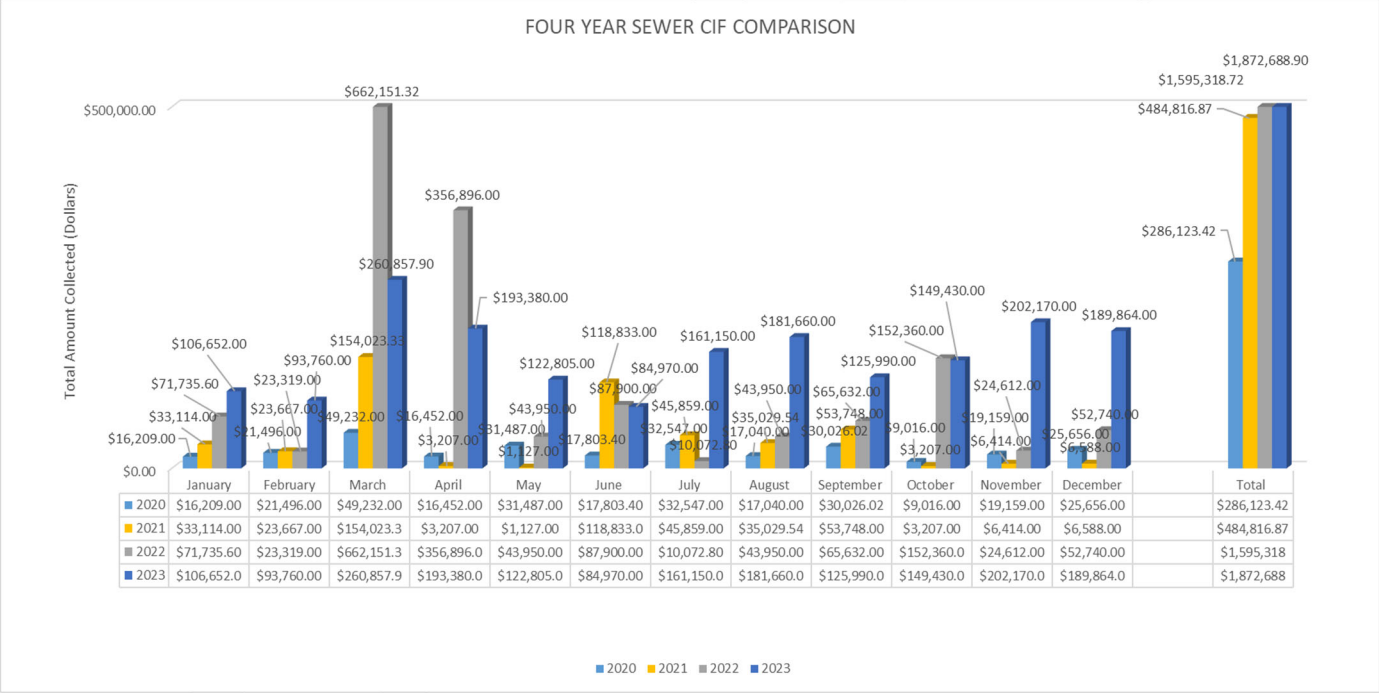
Capacity Improvement and Development Fees

Capacity Improvement fees (CIF's) are one-time charges assessed against new wastewater customers or developers/builders to recover a proportional share of capital costs incurred to provide capacity for the new utility customers. CTUB completed a CIF study that was completed in December 2021 which set the Sewer CIF at $2,399.00 per equivalent dwelling unit (or per single family home). A cursory review of changes incorporated in this SSP indicates that the CIF fee is in-line or likely reduced based on the following parameters:

- Project costs: Same
- Growth Costs: Reduced
- Current Growth: Significantly Increased
- ENR: Slightly reduced
- Debt Principal Credit: Slighted reduced

A high-level assessment with this study provides the Board with assurance that the CIF fee remains consistent with the CIF study. Additional projects will be considered to ensue that the CIF remains in alignment. Based on recommendations from CTUB's consultant the CIF fees should be evaluated every 3 to 5 years.

The following is chart depicts a four-year comparison of sewer capacity fees collected:



	January	February	March	April	May	June	July	August	September	October	November	December	Total
2020	$16,209.00	$21,496.00	$49,232.00	$16,452.00	$31,487.00	$17,803.40	$32,547.00	$17,040.00	$30,026.02	$9,016.00	$19,159.00	$25,656.00	$286,123.42
2021	$33,114.00	$23,667.00	$154,023.3	$3,207.00	$1,127.00	$118,833.0	$45,859.00	$35,029.54	$53,748.00	$3,207.00	$6,414.00	$6,588.00	$484,816.87
2022	$71,735.60	$23,319.00	$662,151.3	$356,896.0	$43,950.00	$87,900.00	$10,072.80	$43,950.00	$65,632.00	$152,360.0	$24,612.00	$52,740.00	$1,595,318
2023	$106,652.0	$93,760.00	$260,857.9	$193,380.0	$122,805.0	$84,970.00	$161,150.0	$181,660.0	$125,990.0	$149,430.0	$202,170.0	$189,864.0	$1,872,688

WASTEWATER TREATMENT

Description of Existing Treatment Systems

CTUB operates three wastewater plants: the Charles Town Wastewater Treatment Plant (CTWWTP), the Tuscawilla Wastewater Treatment Plant (TWWTP) and the Deerfield Sewer Treatment Plant. These wastewater facilities are designed to process the wastewater collected throughout the community and return the treated water to the environment. The treat methods included a number of physical and biological processes designed to provide optimal conditions for nutrient removal. CTUB is regulated by the West Virginia Department of Environmental Protection (WVDEP) through the U.S. Environmental Protection Agency (EPA).

Charles Town Wastewater Treatment Plant (CTWWTP)

The CTWWTP is located on WV route 115 in Charles Town. The facility is a Sequencing Batch Reactor (SBR) treatment facility which operates as an Intermittent Cycle Extended Aeration System (ICEAS) and has a hydraulic capacity of 1.75 million gallons per day (MGD). Wastewater treatment components include one (1) coarse bar screen and compactor, one (1) grit removal system with a washer/compactor, one wet well with three (3) submersible pumps, an influent distribution box, three (3) SBR process trains operated in parallel with chemical addition for phosphorus removal, one (1) post SBR equalization tank, six (6) denitrification filters operated in parallel (currently bypassed) with chemical addition for phosphorus removal and carbon addition for denitrification, one (1) ultraviolet (UV) disinfection system and a utility water system (currently not in use). The solids handling consists of three (3) aerobic digesters operated in parallel, one (1) 573,000-gallon aerobic digester (currently not in use), one (1) sludge transfer pump, one (1) belt filter press with conveyor and one (1) lime silo with one (1) dry feed system and screw auger. The belt filter solids are land applied on farms permitted by the WV DEP.

The Charles Town facility originally consisted of primary treatment, activated sludge tanks, secondary settling basins, disinfection by chlorination, aerobic sludge digestion and sand drying beds. The plant was expanded in 1987 to include a third aeration basin and settling basin. Additionally, the plant added an open-channel Ultraviolet Disinfection (UV) unit and a belt filter press with the associated structures. The sand drying beds were removed as part of this expansion.

The plant was upgraded in 2001 and converted the SBR to an ICEAS process. The current influent pump station, headworks building and blower building were also constructed as part of this upgrade. The 573,000-gallon aerobic digester tank was added to the facility during an upgrade in 2005. The digester tank was built to provide additional sludge processing time and increased storage capacity in an effort to produce higher quality solids. Additionally, denitrification filters were installed at the facility in 2016, which included chemical addition facilities for a coagulant for phosphorus precipitation and carbon for denitrification.

The CTWWTP accepts non-domestic wastewater from the Charles Town Water Plant. The Utility Board currently hauls approximately 6,000-9,000 gallons per week of non-domestic liquid water treatment facility sludge from their existing plant to the CTWWTP digester for processing and thickening. This sludge which is 2-6% solids, consists primarily of river laden material such as sand and dirt along with an aluminum-based coagulant from the sedimentation basins and conventional sand filters. The contents are generally rich in total organic carbon (TOC) from the river source and are difficult to press with the existing Ashbrook belt filter press. The filtrate from the press is returned back to the headworks. The maximum daily permitted volume is 10,000 gallons. The designated NPDES discharge is Outlet No. 001.

The water treatment plant sludge requires a significant amount of polymer addition and adds to the total amount of generated dry tons. It also increases the amount of lime needed for raising the solids pH content. CTUB is currently pursing alternative options to treat and dispose of the water treatment facility sludge through a connection to an adjacent developments sanitary sewer system. This connection is expected to be complete in 2024. This will eliminate the expense and treatment issues with the current method of hauling the sludge to the wastewater treatment facility.

The CTWWTP operates under the West Virginia NPDES No. WV0022349. The current permit, reissued on August 23, 2021, expires on June 30, 2026.

The CTWWTP is permitted for an annual average flow of 1.75 million gallons per day (MGD). Additionally, if the facility discharges 90% (1.58 MGD) or more of its permitted flow over 3 consecutive months, a Plan of Action must be developed and submitted to the Department. The maximum monthly average flow during the period of 2021 through 2023 was 1.22 MG.

This facility serves a population equivalent of approximately 17,500 persons in the City of Charles Town, the City of Ranson and the surrounding areas of Jefferson County and discharges treated wastewater through Outlet No. 001 to Evitts Run, approximately 4.5 miles from its mouth, of the Shenandoah River of the Potomac River.

CTWWTP Flows and Loading

Historical flow and loading data have been compiled and analyzed for the system. This data provides the basis for projecting future flows and loadings to better understand the timing when a capacity restriction may occur at one of the treatment processes and thus must be addressed in order to provide adequate capacity to serve future growth. Table 1.3 summarize the historical and current values for flow for the CTWWTP.

TABLE 1.3: CTWWTP PLANT FLOWS 2021-2023

2021			2022			2023		
	Total (MG)	AVERAGE (MG)		Total (MG)	AVERAGE (MG)		Total (MG)	AVERAGE (MG)
JANUARY	35.83	1.22	JANUARY	37.25	1.20	JANUARY	36.55	1.21
FEBRUARY	32.98	1.18	FEBRUARY	33.8	1.21	FEBRUARY	28.96	1.03
MARCH	36.39	1.17	MARCH	33.28	1.07	MARCH	30.46	1.02
APRIL	34.33	1.18	APRIL	32.98	1.1	APRIL	29.52	0.98
MAY	33.24	1.07	MAY	35.86	1.16	MAY	30.78	0.99
JUNE	36.24	1.21	JUNE	29.9	1.00	JUNE	29.64	0.99
JULY	30.99	1.00	JULY	29.78	0.96	JULY	31.2	1.01
AUGUST	29.94	0.97	AUGUST	30.19	1.01	AUGUST	29.96	1.00
SEPTEMBER	36.36	1.17	SEPTEMBER	29.62	0.96	SEPTEMBER	33.38	1.11
OCTOBER	29.97	0.97	OCTOBER	29.02	0.94	OCTOBER	33.02	1.07
NOVEMBER	30.12	1.00	NOVEMBER	30.09	1.00	NOVEMBER	33.61	1.12
DECEMBER	35.22	1.21	DECEMBER	35.38	1.14	DECEMBER	35.2	1.14
Annual Total	401.61	1.11	Annual Total	387.15	1.06	Annual Total	382.28	1.06

Table 1.4 below summarizes the historical plant flow for the CCWWTP from 2019 through 2023. The percent plant capacity on a Maximum 3-month average daily flow basis varied from 65% to 89%. The plant expansion has been noted in the past several SSP's and is further discussed in the future projects section of this SSP. Growth has continued to increase and will be monitored to ensure that appropriate measures are taken to address sewer infrastructure and capacity needs in order to meet the needs of the regional utility.

CTUB continues to monitor growth as well as optimization efforts that have been recommended by CTUB Engineer's Gwin, Dobson & Foreman in advance of the CTWWTP expansion that may extend the service life of the existing facility, enhance process operations and provide additional capacity and improve treatment efficiencies. These optimization efforts include proper digesting of sludge through the addition of equipment which will reduce costs for sludge handling and disposal. These improvements that are part of the Renewal and Replacement project are expected to have significant impact on the operations of the facility and treatment.

Table 1.4: Historical Plant Flow CTWWTP					
Year	Total Annual Flow (MG)	Annual Average Daily Flow (MGD)	Average Daily Flow (3-month max.)	Permit Capacity (MGD)	Percent Capacity (Average 3-month max/Permit)
2019	459	1.26	1.56	1.75	89%
2020	419.7	1.15	1.24	1.75	71%
2021	401.61	1.11	1.52	1.75	87%
2022	387.15	1.06	1.19	1.75	68%
2023	382.28	1.06	1.13	1.75	65%

The CTWWTP and TWWTP Facilities share total effluent loading limits to the Chesapeake Bay via Outfall 003. Table 1.5 below details the outlets associated with WV0022349:

Table 1.5: WV/NPDES WV0022349 Outfall Descriptions	
Outfall ID	Project Description
001	Charles Town Plant outlet to Evitts Run
002	Tuscawilla Plant outlet regardless of whether it is discharged to Evitts Run or used for spray irrigation
202	Contribution of the total load from the Tuscawilla Plant that is used by the golf course for spray irrigation
203	Contribution of the total load from the Tuscawilla Plant that is discharged directly to Evitts Run through the new effluent line
003	Total load actually discharged to Evitts Run. This is the calculated sum of the loads determined from Outlet 001 and Internal Outlet 203.

The effluent limits for Outfall 001 are listed below in Tables 1.6 through 1.8 and the minimum sampling and monitoring frequencies are listed in Table 1.6. The tables below include the following parameters:

Biochemical Oxygen Demand (BOD), Total Suspended Solids (TSS), Ammonia (NH3), Total Nitrogen (TN) Total Phosphorous (TP). TN and TP concentrations.

Table 1.6: NPDES EFFLUENT LIMITS (OUTLET 001) BOD5, TSS AND AMMONIA-NITROGEN

Effluent Characteristics	Monthly Average Loading Rate, lbs./day	Weekly Average Loading Rate, lbs./day	Max Daily Loading Rate, lbs./day	Monthly Average Concentration, mg/L	Weekly Average Concentration, mg/L	Max Daily Concentration, mg/L
BOD5	301	N/A	601	20.6	N/A	41.2
TSS*	438	N/A	876	30	N/A	60
Ammonia-Nitrogen as N	60	N/A	120	4.1	N/A	8.2

Table 1.7: TMDL ANNUAL WASTELOAD ALLOCATIONS: NITROGEN AND PHOSPHOROUS

Effluent Characteristics	Charles Town Plant (Outfall 001)	Tuscawilla Plant (Outfall 203)	Annual Total Load Limit (Outfall 003)
Total Nitrogen	32,115 lbs.	10,740 lbs.	42,855 lbs.
Total Phosphorus	3,577 lbs.	1,790 lbs.	5,367 lbs.

Table 1.8: EFFLUENT LIMITS (OUTFALL OO1); COLIFORM, RESIDUAL CHLORINE, Ph AND D.O.

Effluent Characteristics	Maximum	Minimum
Fecal Coliform	200 Counts/100 mL (Geo. Mean) 400 Counts/100 mL (Maximum)	N/A
pH	9	6
Dissolved Oxygen (All Year)	N/A	6.0 mg/L at anytime

Table 1.9: ANNUAL NPDES PERMIT MINIMUM MONITORING REQUIREMENTS (OUTLET 001)		
Effluent Characteristics	**Measurement Frequency**	**Sample Type**
BOD5	Once per week	24-hour composite
BOD5 % Removal	Four per month	Calculated
Total Suspended Solids (TSS)	Once per week	24-hour composite
Suspended Solids % Removal	Four per month	Calculated
Fecal Coliform	Once per week	Grab
pH	Once per week	Grab
Dissolved Oxygen	Once per week	Grab
Ammonia Nitrogen	Once per week	24-hour composite
Total Nitrogen as N (Monthly)	Once per week	24-hour composite
Total Nitrogen as N (Yearly)	Once per year	Calculated
Total Phosphorous (Monthly)	Once per week	24-hour composite
Total Phosphorous (Yearly)	Once per year	Calculated
Total Copper	Once per quarter	24-hour composite
Total Lead	Once per year	24-hour composite
Total Zinc	Once per year	24-hour composite
Total Arsenic as As	Once per year	24-hour composite
Total Cadmium	Once per year	24-hour composite
Hexavalent Chromium	Once per year	24-hour composite
Cyanide	Once per year	Grab
Total Mercury as Hg	Once per month	Grab
Total Nickel	Once per year	24-hour composite
Total Silver	Once per year	24-hour composite
Total Hardness as CaCO3	Once per 6-month period	Grab
Total Aluminum	Once per quarter	24-hour composite
Chloride as Cl	Once per quarter	24-hour composite
Chronic Tox. - Cerlodaphina Dubia	Once per year	24-hour composite
Chronic Tox. - Pimephales Promelas	Once per year	24-hour composite
Flow	Continuous	Measured

Annual effluent loading limits contained in the permit were established under the Chesapeake Bay Total Maximum Daily Load (TMDL) for total nitrogen (TN) and total phosphorus (TP). The Charles Town and Tuscawilla Facilities share total effluent loading limits to the Chesapeake Bay via Outfall 003. The other discharge limits are typical water quality - based limitations developed by the West Virginia Department of Environmental Protection.

Tuscawilla Wastewater Treatment Plant (TWWTP)

The TWWTP is a Biological Nutrient Removal (BNR) intergraded with a Membrane Bio-Reactor (MBR) treatment facility having a hydraulic capacity of 0.50 million gallons per day (MGD). Wastewater treatment components include preliminary treatment consisting of one (1) coarse bar screen and compactor, one (1) grit removal system with a washer/compactor, one (1) flow equalization impoundment, one (1) wet well with four (4) submersible pumps and two (2) fine drum screens and compactor, two (2) BNR process treatment trains operated in parallel, chemical addition for phosphorus removal and carbon addition for denitrification, a single MBR basin in operation, one (1) ultraviolet (UV) disinfection system and a utility water system. The solids handling consists of an aerobic digester. Liquid aerobic sludge is transported to the CTWWTP for further processing and disposal. The facility primarily serves the Tuscawilla Hills Subdivision and Locust Hills area. Treated wastewater is discharged to the Tuscawilla Golf Course ponds and irrigation system (to the west) and also into Evitts Run, which is a tributary to the Shenandoah River, via a pumping system (to the east). The upgraded TWWTP has been in operation since 2014. In August of 2020 the MBR filters in Basin #3 were replaced with Toray Filters. The TWWTP operates under the West Virginia NPDES No. WV0022349. The current permit, reissued on August 23, 2021, expires on June 30, 2026. The TWWTP is permitted for an annual average flow of 0.5 million gallons per day (MGD).

TWWTP Flows and Loading

Historical flow and loading data have been compiled and analyzed for the system. This data provides the basis for projecting future flows and loadings to better understand the timing when a capacity restriction may occur at one of the treatment processes and thus must be addressed in order to provide adequate capacity to serve future growth. Table 2.1 summarize the historical and current values for flow.

TABLE 2.1: TWWTP PLANT FLOWS 2021-2023

2021			2022			2023		
	Total (MG)	AVERAGE (MG)		Total (MG)	AVERAGE (MG)		Total (MG)	AVERAGE (MG)
JANUARY	0.52	0.07	JANUARY	0	0	JANUARY	7.3	0.24
FEBRUARY	2.22	0.08	FEBRUARY	0	0	FEBRUARY	6.38	0.23
MARCH	4.22	0.14	MARCH	4.34	0.14	MARCH	6.41	0.21
APRIL	1.12	0.04	APRIL	4.68	0.16	APRIL	6.13	0.20
MAY	0.89	0.03	MAY	6.03	0.19	MAY	6.30	0.20
JUNE	3.37	0.11	JUNE	6.21	0.21	JUNE	6.89	0.23
JULY	3.9	0.13	JULY	6.48	0.21	JULY	7.31	0.24
AUGUST	3.6	0.12	AUGUST	7.01	0.23	AUGUST	7.7	0.25
SEPTEMBER	4.53	0.15	SEPTEMBER	7.11	0.24	SEPTEMBER	6.98	0.23
OCTOBER	3.94	0.13	OCTOBER	7.27	0.23	OCTOBER	6.92	0.22
NOVEMBER	3.73	0.12	NOVEMBER	6.94	0.23	NOVEMBER	7.22	0.24
DECEMBER	0.51	0.07	DECEMBER	6.73	0.22	DECEMBER	8.24	0.27
Annual Total	32.55	0.10	Annual Total	62.8	0.17	Annual Total	83.78	0.230

Table 2.2 summarizes the historical plant flow for the TWWTP from 2019 through 2023. The percent plant capacity on a Maximum 3-month average daily flow basis varied from 0% to 43%.

Table 2.2: Historical Plant Flow TWWTP					
Year	**Total Annual Flow (MG)**	**Annual Average Daily Flow (MGD)**	**Average Daily Flow (3-month max.)**	**Permit Capacity (MGD)**	**Percent Capacity**
2019	55.24	0.15	0.14	0.5	29%
2020	1.09	0.16	0.00	0.5	0%
2021	32.55	0.1	0.13	0.5	25%
2022	62.8	0.17	0.11	0.5	22%
2023	83.78	0.23	0.21	0.5	43%
** TWWTP was offline for the majority of 2020 due to MBR replacement					

Table 2.3: NPDES EFFLUENT LIMITS (OUTLET 002) BOD5, TSS AND AMMONIA-NITROGEN				
Effluent Characteristics	**Monthly Average Loading Rate, lbs./day**	**Max Daily Loading Rate, lbs./day**	**Monthly Average Concentration, mg/L**	**Max Daily Concentration, mg/L**
BOD5	42	83	10	20
TSS*	125	250	30	60
Ammonia-Nitrogen	8.3	16.7	2	4

Table 1.7: TMDL ANNUAL WASTELOAD ALLOCATIONS: NITROGEN AND PHOSPHOROUS			
Effluent Characteristics	Charles Town Plant (Outfall 001)	Tuscawilla Plant (Outfall 203)	Annual Total Load Limit (Outfall 003)
Total Nitrogen	32,115 lbs.	10,740 lbs.	42,855 lbs.
Total Phosphorus	3,577 lbs.	1,790 lbs.	5,367 lbs.

Table 2.4: EFFLUENT LIMITS (OUTFALL OO2); COLIFORM, RESIDUAL CHLORINE, Ph AND D.O.		
Effluent Characteristics	**Maximum**	**Minimum**
Fecal Coliform	200 Counts/100 mL (Geo. Mean) 400 Counts/100 mL (Maximum)	N/A
pH	9	6
Dissolved Oxygen (All Year)	N/A	6.0 mg/L at anytime

Annual effluent loading limits contained in the permit were established under the Chesapeake Bay Total Maximum Daily Load (TMDL) for total nitrogen (TN) and total phosphorus (TP).

Nutrient offsets continue to enhance the City's ability to expand wastewater treatment capacity in light of the nutrient removal requirements of the Chesapeake Bay Program. Because the Tuscawilla WWTP is adjacent to the Locust Hills Golf Course, a portion of its effluent flow is utilized for course irrigation. Telemetry triggers the use of the Tuscawilla Effluent Line for direct discharge to Evitts Run (Outlet 203) when flows exceed Golf Course irrigation use.

Annual reports are submitted to WVDEP for reporting period September through August. Table 2.5 demonstrates CTUB's ability to achieve Chesapeake Bay nutrient limits:

Table 2.5: Nutrient Reporting								
Year	**CTWWTP Nitrogen lbs./year**	**CTWWTP Phosphorous lbs./year**	**TWWTP Nitrogen lbs./year**	**TWWTP Nitrogen lbs./year**	**Total Nitrogen (Outlet 003) *Annual Limit 42,855***	**Total Phosphorous (Outlet 003) *Annual Limit 5,367***	**Golf Course Total Nitrogen (Outlet 202)**	**Golf Course Total Phosphorous (Outlet 202)**
2020-2021	17,112	1,785	1,643	473	13,617	1,550	1,643	473
2021-2022	19,194	2,045	3,190	1,361	17,247	1,904	3,190	1,361
2022-2023	17,127	2,036	4,993	498	17,127	2,036	4,993	498

Deerfield Treatment Plant

The Deerfield Sewer Treatment Plant is located off Route 480 on Southpaw Lane between Route 9 and Shepherdstown. The facility consists of two adjacent Ashco re-circulating sand filter wastewater treatment plants, one pump station and twelve septic tanks with associated piping. The effluent from this system is distributed just below ground level into two disposal fields.

The Deerfield operates under the West Virginia Department of Environmental Protection Underground Injection Control Permit No. 1503-20-037. The current permit was renewed with an effective date of August 25, 2021 and an expiration date of August 25, 2026. The monitoring requirements are detailed in Table 3.1:

Table 3.1: DEERFIELD PERMIT MINIMUM MONITORING REQUIREMENTS

Effluent Characteristics	Measurement Frequency	Sample Type
Dissolved Oxygen	Once per 6 months	Grab
BOD, 5-day	Once per 6 months	Grab
Total Suspended Solids (TSS)	Once per 6 months	Grab
Total Nitrogen	Once per 6 months	Grab
Total Phosphorous	Once per 6 months	Grab
Flow	Once per 6 months	Grab
Fecal Coliform	Once per 6 months	Grab
pH	Once per 6 months	Grab

Performance and Capacity of Existing Treatment Systems

Effluent results indicate that both the CTWWTP and TWWTP facilities produce effluent water quality consistently meeting the permit requirements. The effluent data demonstrates that BOD and TSS concentrations are generally below the 30-day average permit value. Average monthly effluent NH3 concentrations are also observed to be below the minimum daily maximum permit values.

Flow projections for the CTWWTP indicate expansion improvements will be necessary within the next ten years. In 2021 CTUB had Dewberry and GDF, Inc. review the Capacity Improvement Fees as well as a high-level assessment of future capacity needed for a Wastewater Treatment plant expansion. It is anticipated that in 2030 an expansion up to 2.35 with a potential future expansion of the TWWTP Phase 2 Expansion to 1.0 MGD. Based on the data in Table 1.10, growth projections in Table 1.2 and Appendix A, CTUB will begin preliminary evaluation of options for regional wastewater facility needs and expansion in 2024/2025 based on the extensive time required to design and permit a substantial plant upgrade.

Nutrient Management

Nutrient Management continues to be critical in the regulatory permitting and treatment of sanitary sewer. Previous versions of the SSP documented the history of the implementation of US Environmental Protection Agency (USEPA) 2010 Chesapeake Bay Watershed Initiative. As a headwater partner in the Chesapeake Bay Program, West Virginia established permitted Total Nitrogen and Total Phosphorous pounds. CTUB continues to follow changes in the regulatory requirements to determine necessary changes that may be forthcoming in the Watershed Implementation Program (WIP). CTUB is compliant with nutrient management requirements. CTUB must report nutrient removal for the annual period September 1 to August 31. Table 4.1 depicts permitted pounds and actual pounds removed for the period 2020 through current reporting.

Table 4.1: Nutrient Management					
	Total Permitted Nitrogen (lbs./yr.)	Total Reported (lbs./yr.)		Total Permitted Phosphorous (lbs./yr.)	Total Reported (lbs./yr.)
2020-2021	42,855	13,617		5,367	1,550
2021-2022	42,855	17,247		5,367	1,904
2022-2023	42,855	17,127		5,367	2,036

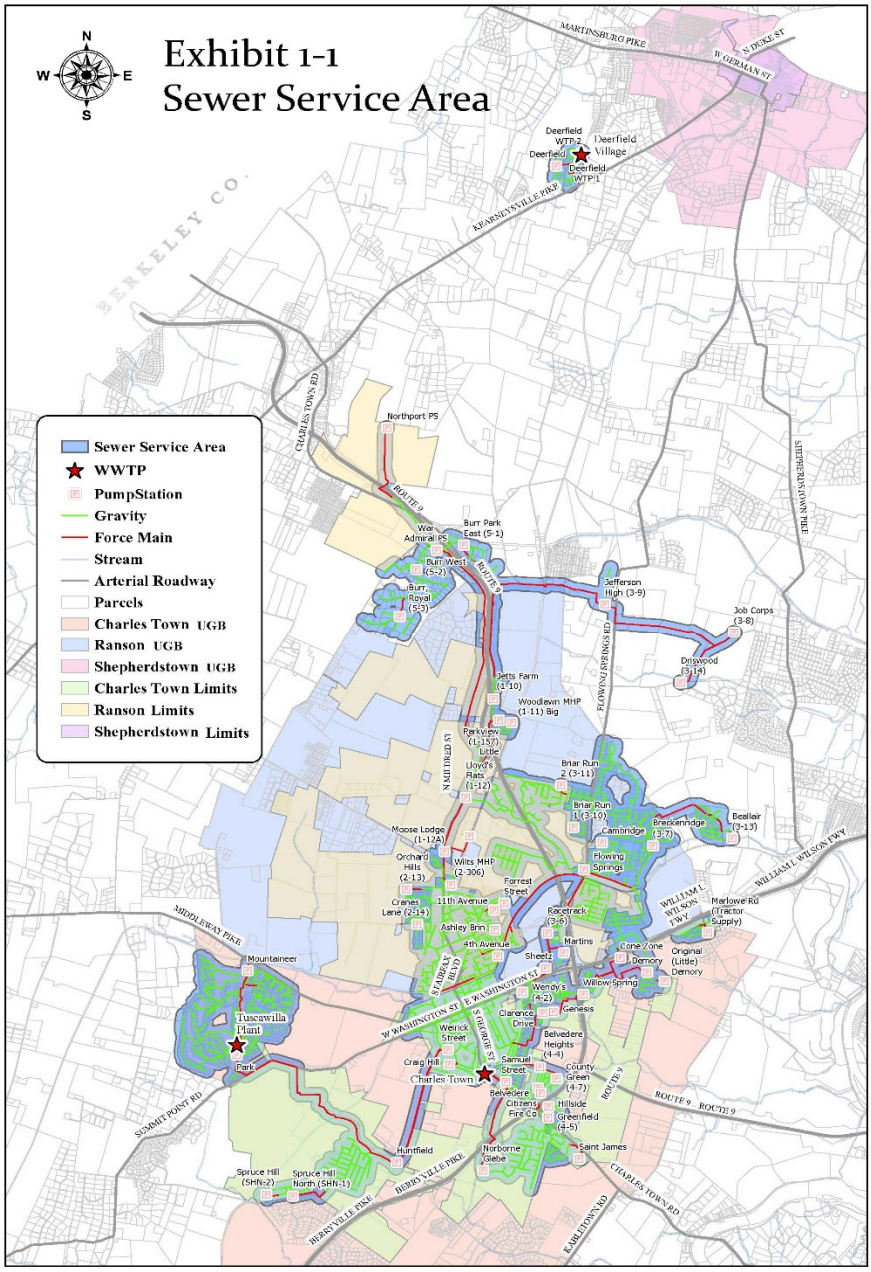
Forecasted capacity must now also be based on nutrient limitations. In addition to volumetric capacity, nutrient limits will be a factor in determining the timing of capital projects. The ability to achieve the reported levels, as shown in Table 4.1, will eliminate the need for the CTWWTP Nutrient Removal Phase 2 Project.

Sludge Disposal

Sludge Management is covered under the West Virginia NPDES No. WV0022349. The current permit, reissued on August 23, 2021, expires on June 30, 2026. The requirements for sludge management reporting are extensive and are covered in the permit. The Charles Town Plant currently accepts all of the waste sludge from Tuscawilla as well as the water treatment plant process waste. An upgrade to the sludge process is included with the Renewal and Replacement project which will eliminate the belt press process and construct a new centrifuge process. This process will eliminate the use of lime and will drastically improve operations with a reduction in labor expense due to the improved process.

COLLECTION SYSTEM, TRANSMISSION MAINS AND PUMP STATIONS

CTUB provides wastewater service to approximately 8,800 sewer customers through a network of collection and transmission systems through over 125 miles (over 100 miles of gravity and over 25 miles of force main) and 43 pump stations to the three (3) treatment facilities noted in the previous section. Refer to Exhibit 1-1 and Appendix B for the current collection system service area and pump station locations.



Collection System and Pumping Stations

The collection system includes gravity and force mains that range from 1.5 to 24 inches in diameter. The collection system comprises of varying pipe materials including asbestos-cement, clay, ductile, cast and PVC piping. There are significant portions of the collection system that are aging and will likely need of repairs or replacement. A sewer hydraulic model was completed in January 2021 that identified several portions of the conveyance system that may need to be addressed due to capacity concerns. Specifically, the study identified capacity concerns along the Evitt's Run interceptor as well as the gravity line through Jefferson Memorial Park. These critical upgrades have been included in the 2022 Collection System Project. Additionally, studies have focused on manholes structures throughout the system that need to be repaired or replaced in the near future. To the extent possible these will be achieved within the annual operation and maintenance budgets. CTUB will continue to perform flow monitoring throughout the system to assess capacity constraints.

Pump stations and force mains are used to pump flows to another gravity collection system, to a master pump station or directly to the wastewater treatment facilities. There are 43 pump stations in the CTUB system. As a result of utility consolidation, efficiencies have been realized that allow for the installation of gravity sewer mains and decommissioning of pump stations. Where possible, the efficiencies will be pursued to reduce overall operation and maintenance expenses. To the extent possible these projects may be performed in-house to reduce overall project costs.

Fats, Oils and Grease

Overflows and sewer backups are commonly caused by fats, oil and grease (FOG). FOG gets into the sewer from household drains and neglected grease interceptors at businesses and restaurants. The FOG blocks sewer pipes, causing health hazards and leading to expensive fixes. CTUB will focus on community education and outreach to reduce the damage to the utility sewer system.

Inflow and Infiltration

Inflow occurs when stormwater flows directly into the sewer collection system. This may be through a manhole cover, or a cross connection between a storm drain and the sewer collection system. Infiltration is typically caused by ground water entering the collection system at defects in mains, laterals or manholes. CTUB has included additional smoke testing in the operational budgets for the next Strategic Planning period. CTUB continues to assess ways to address disconnection of any cross connections of storm drains to the sewer system which are considered illegal connections. CTUB is working with the City of Charles Town staff and officials to determine the appropriate enforcement actions to remove the illegal connections from the sewer system.

PROJECT REVIEW

Completed Projects

Since the last issuance of the SSP, significant improvements have been made throughout the treatment and collection system. Necessary upgrades and improvements to the CTWWTP and TWWTP were completed to address WVDEP Inspection requirements as well as operation and maintenance improvements to the collection and pump station network have been made as a result of consolidation into a regional utility. These improvements include elimination of pump stations through installation of gravity lines which reduce operation and maintenance expenses as well as projects that address rehabilitation of aging pump stations and lines to further reduce utility expenses.

Table 5.1: Projects Completed since 2021 SSP

Year	Project Description
2021	NPDES Permit Reissuance
2021	Completed 1st step in rate equalization
2021	Completed Manhole assessment
2021	$1,966,030 EEG Grant received for the Renewal and Replacement Project
2021	Decommissioned Hale Road and County Green Pump Stations
2021	Initiated and Completed Sewer Capacity Improvement fee assessment
2022	Issue Notice to Proceed on Renewal and Replacement Project in September 2022
2022	Cave Road and Shenandoah Junction Distressed Utility assistance
2022	Initiate Greenfield Force main upgrade project
2023	Received $1,620,000 EEG Grant from IJDC for the Collection System Project
2023	Completed Class Cost of Service Study on rates
2023	Wendy's Pump Station Upgrades
2023	Basin Cleaning at Charles Town Wastewater Plant
2024	Completed rate equalization of all rates in January 2024

It should be noted that since the last SSP several key projects have either been completed or are no longer viable projects for CTUB. Specifically, the initial phases of Inflow and Infiltration studies and sewer modeling efforts were completed. Additionally, the Shenandoah Junction and Cave Road distressed utility connections were deemed part of the Jefferson Utility acquisition by West Virginia American Water therefore they are no longer part of planning efforts for CTUB.

Current Development and Projects

There are numerous on-going sewer projects that CTUB is evaluating:

2025 Collection System Project (formerly JCPSD Flowing Springs Project/Modified Flowing Springs Plan)

CTUB is working with RK&K and various consultants to finalize this project and is currently in the process of obtaining easements for the project. The engineer's construction cost estimate for this project is currently $8,283,000. CTUB has received a grant award in the amount of $1,620,000. CTUB also anticipates contributing approximately $3,000,000.00 towards the project from Capacity Improvement Fees. Funding for the Project consists of (i) a $3,575,000 USDA RD loan at a 2.5 percent interest rate over 40 years. And (ii) a DEP SRF loan of $2,844,984 at .25 percent interest, and a .25 percent administrative fee for a term up to 40 years, and debt forgiveness in the amount of $500,000 per the January 17, 2017 DEP assurance letter. During the consolidation of utilities, CTUB committed to the WV PSC completing necessary components of the Flowing Springs project through submission of a Modified Flowing Springs Plan in March 2018. Since the utility consolidation and completion of the Route 9 sewer project, CTUB has evaluated efficiencies and operational alternatives to significantly reduce components and costs of the Modified Flowing Springs Plan. The Flowing Springs Project and Modified Flowing Springs plan have evolved into a 2025 Collection System projects which consists of necessary improvements to the CTUB collection system. Table 5.2 includes a summary of the anticipated components and costs of this project.

2021 Renewal and Replacement Project for CTWWTP and TWWTP

In 2022, CTUB issued the Notice to Proceed on the Renewal and Replacement Project for the Charles Town Wastewater Treatment Plant. This project was awarded to Alvarez Contractors, Inc. in the amount of $10,151,000.00. The project was designed by Gwin, Dobson and Foreman, Inc. (GDF) and included improvements to the following:

- Headworks screening
- The influent and effluent pump stations
- UV disinfection system
- Supervisory Control and Data Acquisition (SCADA) system modifications
- Solids Handling upgrade to Centrifuge
- New Electrical Building and electrical throughout the plant
- Implementation of full sludge digestion
- FRP Shelter installation for electrical components.

The Renewal and Replacement project is approximately 75% complete with several key electrical components waiting to be shipped. Although the project was expected to be substantially complete by June 2024, however it appears that these delays will impact the schedule and delay substantial completion by several months. The project continues to be within budget.

Table 5.2 below illustrates the anticipated costs associated with the current and future projects:

Table 5.2: 2024 Project Estimate Summary	
WASTEWATER TREATMENT PLANT PROJECTS	
Wastewater Treatment projects	**Costs**
Renewal and Replacement Project (Near Completion end of 2024)	$12,135,000.00
Preliminary Engineering for Plant expansion	$50,000.00
Blue-Nite Sand Filter Rehabilitation	$200,000.00
Maintenance Shop (split with Water Operations)	$250,000.00
Future Plant Projects	
CTWWTP Upgrades and Expansion (2030)	$20,500,000.00
	.
Total Wastewater Plant Project Costs	**$33,135,000.00**
Collection System Projects	**Costs**
RK&K Task 7 Parkview MHP Pump Station Decommission	In-house (COMPLETED)
RK&K Task 7 Lloyd's Flat Pump Station Decommission	In-house (COMPLETED)
Upgrades to Existing Wendy's Pump Station	In-house (COMPLETED)
2022 Collection System Project	
Burr East Pump Station	$910,900.00
Moose Lodge	$426,400.00
Jett's Farm	$721,100.00
Lakeland Place	$1,257,800.00
Jefferson Memorial Park Collector	$332,500.00
Evitt's Run Collector	$1,668,400.00
Flowing Spring Pump Station (Possible Bid Alternate)	$2,965,900.00
Collection System Engineering, Legal, Design	$1,275,000.00
RK&K Collection System Project Total	**$9,558,000.00**
Future CTUB Collection System Projects	**Costs**
Cantor Hollow Pump Station	$145,000.00
Greenfield	$1,100,000.00
Greenfield Pump Station	$370,000.00
Fairfax Parallel Line/Collector Project	$510,000.00
2026/2027 Collection system project	$3,000,000.00
Collections Project and Pump Stations Project (2031)	$3,250,000.00
Total 2022 and Future Collection System Project Costs	**$17,933,000.00**
Total Plant and Collection Projects	**$51,068,000.00**

Future Projects

CTUB is actively working on various projects that will result in more operational efficiencies, tracking and growth of the utility system. CTUB continues to keep the sewer hydraulic model updated and follows changes in growth that may impact the collection and transmission system growth related projects. CTUB has developed a 10-year Capital Improvement Plan (CIP) Expenditure Plan to track capital projects and expenditures. The CIP prioritizes planning projects that are needed as a result of the following factors:

- Regulatory Compliance
- Condition/Probability of Failure
- Consequences of Failure/Risk
- Capacity / System Operational Efficiencies
- Improved Operations and Maintenance costs
- Safety
- Design Life / Best Replacement Practices
- Redundancy / Reliability
- Opportunity Projects
- Development Extensions

The CTUB Asset Management Plan will be updated to assist with the development and maintenance of a CIP over the next several years. CTUB is continuing to evaluate conversion to a software program that will provide cohesive interaction between accounting, billing, asset management and maintenance programming for all facilities.

CTWWTP Plant Expansion

Expansion of the CTWWTP is expected within the next 10 years based on the historical flow data in Table 1.4 as well as the development projections detailed in Table 1.2. Design efforts will be initiated in 2024/2025.

There are various factors that need to be evaluated with an expansion of the CTWWTP including location, size, type of facility and environmental protection. An expansion from 1.75 MGD is estimated to cost approximately $18 to $23 million in today's dollars. Every effort will be made to provide the most cost-effective design to minimize any burden to ratepayers.

RATE EQUALIZATION, FUNDING AND FINANCIAL OPTIONS

Rate Equalization

During the consolidation of utilities, the City of Charles Town agreed to exercise its best efforts to equalize the rates and charges for water service of all water and sewer customers within 10 years after the closing date. In January 2024, CTUB completed this obligation nearly 5 years ahead of schedule. CTUB continues to maintain a positive financial position. The ability to equalize rates well in advance of the 10-year mark demonstrates the benefits of the consolidation efforts.

The Class Cost of Service Study performed in 2023 identified several rate adjustments necessary for sewer. No rate increase was necessary however the rate tariff structure was revised to more appropriately align the various rates with the customer classes.

CTUB continues to maintain a minimum debt/service coverage ratio of 130%. The debt service coverage ratio required by bondholders for the combined utility is 115%.

Funding and Financial Planning

CTUB has successfully initiated the Renewal and Replacement project at the Charles Town Wastewater Plant. In addition, CTUB is nearing completion of the 2021 Collection System Project and expects to have the project out to bid in the summer of 2024.

CTUB continues to pursue a strategy for funding upgrades and expansion in a manner that will minimize the burden to the current and future ratepayers. CTUB intends to fund the costs for the above projects through conventional rate impacts, payment of prior bonds and Capacity Improvement Fees. The development of a capital improvement plan will identify future capital purchases that are necessary for the operation of the sewer system. CTUB continues to update the Capital Improvement Plan that will identify system needs and will aid in the evaluation of the Capacity Improvement fees. The next evaluation of Capacity Improvement Fees is anticipated to be underway in 2025.

Future CTWWTP expansion is expected to be necessary within the next 10 years. This will require a significant capital outlay and funding strategies in a future SSP and project discussion. It is anticipated that plant expansion could range from $18 to $23 million.

APPENDIX A – GROWTH PROJECTIONS

	Table 1.2 -CTUB Sewer Strategic Plan 2024 Development Forecast																												
	Development	Total Design EDUs	Total Built as of 2024	20 year forecast to be built	Total Flow	Beyond 20 year forecast	Year 1 2024	Year 2 2025	Year 3 2026	Year 4 2027	Year 5 2028	Year 6 2029	Year 7 2030	Year 8 2031	Year 9 2032	Year 10 2033	Year 11 2034	Year 12 2035	Year 13 2036	Year 14 2037	Year 15 2038	Year 16 2039	Year 17 2040	Year 18 2041	Year 19 2042	Year 20 2043	Years 11-20 2034-2043	TOTAL @ Year 20	TOTAL REMAINING
1	Aspen Green	203	85	118	30,450	0	30	30	30	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	118	0
2	Beallair	372	176	196	55,800	0	30	30	30	30	30	30	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	196	0
3	Blackford Village/Tackley Mill	500	0	500	75,000	0	0	0	0	0	0	0	0	20	20	20	20	20	20	20	20	20	20	20	20	20	200	260	240
4	Briar Run	164	126	38	24,600	0	30	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38	0
5	Burr Industrial Park & Bardane	200	178	22	30,000	0	3	3	3	3	3	3	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	22	0
6	Cambridge	134	92	42	20,100	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3		0	0	0	0	0	12	42	0
7	Cantor Hollow	124	0	124	18,600	0	0	0	30	30	30	34	0															124	0
8	Charles Town Infill	250	38	212	37,500	112	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	50	100	112
9	Clayhill Farm	300	0	300	45,000	0	0	0	0	0	0	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	200	300	0
10	Country Club Commons	8	0	8	1,200	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	8	0
11	Fairview	450	0	450	67,500	0	0	0	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	0	0	0	210	450	0
12	Harvest Hills	392	6	386	58,800	166	0	0	0	0	0	0	0	0	0	20	20	20	20	20	20	20	20	20	20	20	200	220	166
13	Huntfield	3,200	554	2,646	480,000	2,046	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	300	600	2046
14	Huntwell West	350	26	324	52,500	0	30	30	30	30	30	30	30	30	30	30	24	0	0	0	0	0	0	0	0	0	24	324	0
15	Jefferson Orchards	888	0	888	133,200	688	0	0	0	0	0	0	0	0	0	0	20	20	20	20	20	20	20	20	20	20	200	200	688
16	Kable Townhomes	22	0	22	3,300	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	0
17	King's Crossing	404	58	346	60,600	0	30	30	30	30	30	30	30	30	30	30	30	16	0	0	0	0	0	0	0	0	46	346	0
18	Locust Knoll	300	0	300	45,000	0	0	0	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	0	0	0	140	300	0
19	Magnolia Springs	300	259	41	45,000	0	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41	0
20	Norborne Glebe	1,050	626	424	157,500	0	30	30	30	30	30	30	30	30	30	30	30	30	30	34	0	0	0	0	0	0	124	424	0
21	Old Town Ranson - Infill	250	10	240	37,500	90	10	10	10	10	10	10	10	10	10	10	5	5	5	5	5	5	5	5	5	5	50	150	90
22	Orchard Springs	270	0	270	40,500	0	0	30	30	30	30	30	30	30	30	30	0	0	0	0	0	0	0	0	0	0	0	270	0
23	Potomac Marketplace	54	2	52	8,100	0	5	5	5	5	5	5	5	5	5	5	2	0	0	0	0	0	0	0	0	0	2	52	0
24	President's Pointe	1,100	233	867	165,000	267	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	300	600	267
25	Prospect Place	170	0	170	25,500	0	0	0	0	0	9	9	25	25	25	25	25	27	0	0	0	0	0	0	0	0	52	170	0
26	Ranson Gateway / Boulevard	1,175	0	1,175	176,250	815	0	0	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	200	360	815
27	Ranson Heights	428	0	428	64,200	0	30	30	30	30	30	30	30	30	30	30	30	30	30	30	8	0	0	0	0	0	128	428	0
28	Red Clover Meadows (formerly Lloyd Property)	258	0	258	38,700	0	30	30	30	30	30	30	30	30	18	0	0	0	0	0	0	0	0	0	0	0	0	258	0
29	Shenandoah Springs	705	285	420	105,750	0	30	30	30	30	30	30	30	30	30	30	30	30	30	30	0	0	0	0	0	0	120	420	0
30	Spring Hill	588	0	588	88,200	48	0	0	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	300	540	48
31	Stonecrest	320	0	320	48,000	0	30	30	30	30	30	30	30	30	30	30	20	0	0	0	0	0	0	0	0	0	20	320	0
32	Stone Spring (formerly Fritts Property)	328	0	328	49,200	0	30	30	30	30	30	30	30	30	30	30	28	0	0	0	0	0	0	0	0	0	28	328	0
33	Washington Landing	274	204	70	41,100	0	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	70	0
34	Windmill Crossing	150	146	4	22,500	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0
35	Lakeland Place	464	0	464	69,600	0	0	0	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	14	0	0	224	464	0
36	Shoemaker Property	300	0	300	45,000	0	0	0	30	30	30	30	30	30	30	30	30	30	0	0	0	0	0	0	0	0	60	300	0
37	WVU Medical	500	0	500	75,000	50	0	0	0	0	0	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	300	450	50
38	Hillside	150	0	150	22,500	0	0	30	30	30	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	150	0
39	Vinton Property	300	0	300	45,000	0	0	0	30	30	30	30	30	30	30	30	30	30	0	0	0	0	0	0	0	0	60	300	0
	Total Projected Development	**16,145**	**3,104**	**14,291**	**2,541,750**	**4,232**	**528**	**447**	**548**	**546**	**526**	**550**	**518**	**520**	**507**	**509**	**472**	**386**	**343**	**347**	**258**	**250**	**250**	**200**	**200**	**200**	**3,130**	**8,569**	**4,472**

APPENDIX B – EXISTING SERVICE AREA

Exhibit 1-1
Sewer Service Area

N
W
E
S

Sewer_Service_Area
WWTP
Pump_Station
Gravity
Force_Main
Stream
Arterial_Roadway
Parcels
Charles_Town_UGB
Ranson_UGB
Shepherdstown_UGB
Charles_Town_Limits
Ranson_Limits
Shepherdstown_Limits

MARTINSBURG PIKE
N DUKE ST
W GERMAN ST
Deerfield Village
Deerfield
KEARNEYSVILLE PIKE
BERKELEY CO.
Northport PS
CHARLES TOWN RD
War Admiral PS
Burr Park East (5-1)
Burr West (5-2)
Burr, Royal (5-3)
ROUTE 9
Jefferson High (3-9)
Job Corps (3-8)
FLOWING SPRINGS RD
Driswood (3-14)
SHEPHERDSTOWN PIKE
Jetts Farm (1-10)
Woodlawn MHP (1-11) Big
Briar Run 2 (3-11)
N MILDRED ST
Briar Run 1 (3-10)
Beallair (3-13)
Breckenridge (3-7)
Moose Lodge (1-12A)
Flowing Springs
Orchard Hills (2-13)
Wilts MHP (2-306)
Forrest Street
WILLIAM L WILSON FWY
Cranes Lane (2-14)
11th Avenue
Marlowe Rd (Tractor Supply)
MIDDLEWAY PIKE
Ashley Brin
Racetrack (3-6)
4th Avenue
Mountaineer
Original (Little) Demory
Demory
E WASHINGTON ST
N GEORGE ST
Wendy's (4-2)
Willow Spring
Clarence Drive
Tuscawilla Plant
W WASHINGTON ST
Weirick Street
Magnolia Springs
Charles Town
Craig Hill
Park
S GEORGE ST
Samuel Street
Belvedere
Hillside
ROUTE 9
ROUTE 9
ROUTE 9
Greenfield (4-5)
SUMMIT POINT RD
BERRYVILLE PIKE
Huntfield
Spruce Hill (SHN-2)
Spruce Hill North (SHN-1)
BERRYVILLE PIKE
CHARLES TOWN RD
KABLETOWN RD

APPENDIX C – PROJECTED DEVELOPMENTS

Exhibit 1-2
Projected Developments

* See 2024-2043 Development Forecast spreadsheet in Appendix A of Strategic Plan

N
W
E
S

- WWTP
- Gravity
- Force_Main
- Stream
- Arterial_Roadway
- Parcels
- Charles_Town
- Ranson_UGB
- Shepherdstown_UGB
- Charles_Town_Limits
- Ranson_Limits

15 3 5 22 12 18 31 1 9 4 36 23 24 6 2 28 14 35 16 26 29 10 21 27 7 34 30 8 25 32 19 37 38 39 11 13 33 17 20

CHARLES TOWN RD
ROUTE 9
SHEPHERDSTOWN PIKE
FLOWING SPRINGS RD
N MILDRED ST
WILLIAM L WILSON FWY
MIDDLEWAY PIKE
E WASHINGTON ST
W WASHINGTON ST
N GEORGE ST
S GEORGE ST
Tuscawilla Plant
Charles Town
SUMMIT POINT RD
BERRYVILLE PIKE
KABLETOWN RD

Charles Town
Utility Board

661 S. George Street, Suite 101 Charles Town, WV 25414
Phone: (304) 725-2316 ♦ Fax: (304) 725-7150 ♦ Web: www.ctubwv.com

RESOLUTION NO. 2024-01
CHARLES TOWN UTILITY BOARD

WHEREAS there is need for the Charles Town Utility Board by and for Water and Sewer operations to adopt revised Water and Sewer Budgets for Fiscal Year 2024;

WHEREAS it has been determined that certain CITY OF CHARLES TOWN (WEST VIRGINIA) Combined Waterworks and Sewerage System Refunding Revenue Bonds require the following:

> Section 6.15.Operating Budget. The Issuer shall annually, at least 30 days preceding the beginning of each Fiscal Year, or at such earlier date required by its charter or the ordinance of the Board, prepare and adopt by resolution a detailed budget of the estimated revenues and expenditures for operation and maintenance of the System during the succeeding Fiscal Year. The Issuer shall mail copies of such annual budget and all resolutions authorizing increased expenditures for operation and maintenance to the Original Purchaser and shall make available such budgets and all resolutions authorizing increased expenditures for operation and maintenance of the System at all reasonable times to the Original Purchaser and to any Holder of Bonds or anyone acting for and in behalf of such Holder who requests the same and;

NOW, THEREFORE, BE IT RESOLVED, that the Charles Town Utility Board hereby adopts revised Water and Sewer Budgets for Fiscal Year 2024, dated April 10, 2024.

CHARLES TOWN UTILITY BOARD

_____
Chairman

Attest:

_____
Dated: April 10, 2024

Charles Town Utility Board
Water Fund
FY 2024 Budget Revision
For Year Ending June 30, 2024

	FY 2024 Budget (Approved 4/26/2023)	FY 2024 Budget Revision (For approval 4/10/2024)
OPERATING REVENUES		
Sales and Services to Customers	$ 4,247,000	$ 4,535,500
Total Operating Revenues	4,247,000	4,535,500
OPERATING EXPENSES		
Salaries, Wages, and Benefits	1,555,129	1,520,844
Contractual Services	80,000	130,000
Administrative and General	226,500	225,800
Material and Supplies	394,000	437,000
Utilities	148,400	158,400
Maintenance	684,500	820,000
License Fees and Subscriptions	143,500	141,500
Total Operating Expenses	3,232,029	3,433,544
Operating Income (before dep expense)	1,014,971	1,101,956
Depreciation Expense (non-cash)	(1,165,000)	(1,237,073)
Operating Income	(150,029)	(135,117)
NON-OPERATING REVENUES (EXPENSES)		
Tank Lot Rental Revenue	565,000	565,000
Interest Income	23,000	145,000
Sinking Fund Income	20,000	28,000
Misc. Water Revenue	50,000	35,000
Interest on Long Term Debt	(425,000)	(376,358)
Total Non-Operating Revenues (Expenses)	233,000	396,642
Net Income (Loss)	$ 82,971	$ 261,525

Charles Town Utility Board
Water Fund
Budget Comparison
For Year Ending June 30, 2024

	FY 2022 ACTUAL	FY 2023 ACTUAL	FY 2024 BUDGET	FY 2024 YTD @ 3/31	FY 2024 REVISION	VARIANCE
OPERATING REVENUES						
Metered Sales - Residential	$ 2,552,400	$ 2,631,779	$ 2,664,000	$ 2,156,671	$ 2,915,000	$ 251,000
Metered Sales - Commercial	1,287,225	1,297,903	1,340,000	1,031,217	1,400,000	60,000
Metered Sales - Glen Haven/Cavaland	95,952	93,582	100,000	73,432	88,000	(12,000)
Bulk Water	17,964	20,879	20,000	21,088	24,000	4,000
Customer Penalties	68,449	77,641	85,000	56,671	80,000	(5,000)
Misc Service Revenue - Reconnection	31,200	31,090	38,000	20,940	28,500	(9,500)
TOTAL OPERATING REVENUES	**4,053,190**	**4,152,875**	**4,247,000**	**3,360,019**	**4,535,500**	**288,500**
OPERATING EXPENSES						
Water Supply & Treatment						
Materials & Supplies	16,477	3,711	15,000	8,212	15,000	-
Maint of Water Source	19,983	13,337	20,000	17,780	30,000	10,000
Salaries & Wages	330,783	356,132	380,129	286,600	380,129	-
Power & Fuel	119,074	139,912	140,000	105,303	150,000	10,000
Power & Fuel - GH/CAV	6,462	8,131	8,400	5,246	8,400	-
Chemicals	142,717	168,802	170,000	136,989	185,000	15,000
Testing	33,383	55,512	55,000	13,442	35,000	(20,000)
Material & Supplies - WTP	19,954	23,911	25,000	22,320	30,000	5,000
Material & Supplies - GH/CAV	3,097	3,957	4,000	2,541	4,000	-
Sludge Hauling	-	39,672	39,500	32,482	45,000	5,500
Maint of Water Treatment Plant	99,915	78,922	90,000	53,484	90,000	-
Maint of Water Plant - GH/CAV	5,640	1,579	5,000	8,194	10,000	5,000
License Fees & Subscriptions	-	25,701	34,000	14,267	25,000	(9,000)
Total Water Supply & Treatment	797,485	919,280	986,029	706,859	1,007,529	21,500
Transmission & Distribution - Maint						
Salaries & Wages	433,575	384,205	389,144	294,354	389,144	-
Materials & Supplies	15,730	18,382	20,000	14,363	25,000	5,000
Maint of Dist Reservior & Standpipes	67,440	25,738	50,000	25,114	50,000	-
Maint of Mains	99,659	115,918	120,000	83,015	120,000	-
Maint of Services	142,338	142,239	150,000	111,348	160,000	10,000
Maint of Meters	136,320	174,843	180,000	172,959	240,000	60,000
Maint of Hydrants	4,703	26,565	15,000	33,834	50,000	35,000
Total Tranmission & Distribution	899,764	887,889	924,144	734,987	1,034,144	110,000
Billing & Accounting Expenses						
Salaries & Wages	154,591	167,573	197,629	134,865	197,629	-
Billing Expense	12,772	38,645	40,000	42,510	65,000	25,000
License Fees & Subscriptions	-	46,466	64,500	16,670	64,500	-
Bad Debt Expense	9,395	5,986	10,000	10,008	15,000	5,000
Total Billing & Accounting	176,758	258,669	312,129	204,052	342,129	30,000
Administrative & General Expenses						
Salaries & Wages	113,679	115,470	130,607	100,017	130,607	-
Director Compensation	-	2,375	2,500	1,750	2,500	-
Employee Insurance & Benefits	151,137	160,399	221,784	129,923	178,000	(43,784)
Employee Pension - PERS	98,636	41,786	98,776	70,161	98,776	-
Payroll Taxes - FICA	79,894	79,534	83,959	63,010	83,959	-
OPEB	(82,310)	(61,995)	-	-	-	-
Employee Pension - 457 Plan	-	17,792	18,101	15,093	22,101	4,000
Office Supplies & Expense	98,178	66,249	65,000	57,800	78,000	13,000
Travel, Training, & Education		-	-	4,025	6,500	6,500

Charles Town Utility Board
Water Fund
Budget Comparison
For Year Ending June 30, 2024

	FY 2022 ACTUAL	FY 2023 ACTUAL	FY 2024 BUDGET	FY 2024 YTD @ 3/31	FY 2024 REVISION	VARIANCE
Uniform Expense		-	-	5,489	8,000	8,000
Computers - Technology	12,772	15,635	15,000	19,288	22,000	7,000
Maintenance of General Property	14,879	16,123	15,000	17,591	25,000	10,000
License Fees & Subscriptions	-	14,715	30,000	5,069	30,000	-
Contractual Services - Engineering	77,802	15,269	20,000	8,296	25,000	5,000
Contractual Services - Accounting	19,341	17,178	20,000	15,375	20,000	-
Contractual Services - Legal	10,066	27,756	20,000	51,677	65,000	45,000
Contractual Services - Other	61,468	21,117	20,000	15,165	20,000	-
Rental of Office Building	-	-	15,000	10,200	15,300	300
Transportation Expense	50,712	73,448	78,000	48,577	68,000	(10,000)
Property Insurance	74,393	74,916	85,000	83,976	85,000	-
Worker's Comp	33,072	32,896	35,000	13,973	26,000	(9,000)
Regulatory Commission Expense	15,086	12,793	20,000	5,304	20,000	-
Misc. General Expense	9,567	10,149	10,000	5,194	10,000	-
Advertising & Publication Expense	-	3,805	-	2,664	4,000	4,000
Bond Administration Fees	5,119	5,193	6,000	2,782	6,000	-
Total Administrative & General	843,493	762,602	1,009,727	752,399	1,049,742	40,016
TOTAL OPERATING EXPENSES	**2,717,500**	**2,828,440**	**3,232,029**	**2,398,298**	**3,433,544**	**201,516**
Operating Income (before Depreciation)	1,335,690	1,324,435	1,014,971	961,721	1,101,956	86,984
Depreciation Exp (Non-cash, not budgeted)	(1,186,118)	(1,237,073)	(1,165,000)	(927,805)	(1,237,073)	-
OPERATING INCOME (LOSS)	**149,572**	**87,362**	**(150,029)**	**33,916**	**(135,117)**	**14,911**
NON-OPERATING REVENUES (EXPENSES)						
Tank Lot Rental Revenue	523,603	566,391	565,000	389,809	565,000	-
Interest Income	5,009	23,891	23,000	101,530	145,000	122,000
Sinking Fund Income	469	19,139	20,000	18,084	28,000	8,000
Misc. Water Revenue	71,609	33,484	50,000	26,888	35,000	(15,000)
Grant Revenue	46,765	11,080	-	-	-	-
Bond Issuance Costs	(139,733)	-				
Gain on Sale of Assets	-	14,005	-	-	-	-
Interest on Long-term Debt	(445,578)	(395,146)	(425,000)	(191,941)	(376,358)	48,642
TOTAL NON-OPERATING REVENUES (EXP)	**62,144**	**272,844**	**233,000**	**344,371**	**396,642**	**163,642**
NET INCOME (LOSS)	**$ 211,716**	**$ 360,206**	**$ 82,971**	**$ 378,287**	**$ 261,525**	**$ 178,553**

Charles Town Utility Board
Water Fund
FY 2024 O&M Budget vs. Actual Detail
For Period Ended March 31, 2024

ACCOUNT DESCRIPTION	BUDGET ACTUAL	BUDGET YTD	ACTUAL YTD	VARIANCE YTD	BUDGET REVISION FY 2024	VARIANCE FY 2024 BUDGET
OPERATING REVENUES						
Metered Sales - Residential	2,664,000	1,998,000	2,156,671	158,671	2,915,000	251,000
Metered Sales - Commercial	1,340,000	1,005,000	1,031,217	26,217	1,400,000	60,000
Metered Sales - Glen Haven/Cavaland	100,000	75,000	73,432	(1,568)	88,000	(12,000)
Bulk Water	20,000	15,000	21,088	6,088	24,000	4,000
Customer Penalties	85,000	63,750	56,671	(7,079)	80,000	(5,000)
Misc Service Revenue - Reconnection	38,000	28,500	20,965	(7,535)	28,500	(9,500)
TOTAL OPERATING REVENUES	**$ 4,247,000**	**$ 3,185,250**	**$ 3,360,044**	**$ 174,794**	**$ 4,535,500**	**$ 288,500**
OPERATING EXPENSES						
WS - Materials & Supplies	15,000	11,250	8,212	(3,038)	15,000	-
WS - Maint of Water Source	20,000	15,000	17,780	2,780	30,000	10,000
WT - Salaries & Wages	380,129	285,097	286,600	1,503	380,129	-
WT - Power	140,000	105,000	105,303	303	150,000	10,000
WT - Power - GH/CAV	8,400	6,300	5,246	(1,054)	8,400	-
WT - Chemicals	170,000	127,500	136,989	9,489	185,000	15,000
WT - Testing	55,000	41,250	13,442	(27,808)	35,000	(20,000)
WT - Materials & Supplies	25,000	18,750	22,320	3,570	30,000	5,000
WT - Materials & Supplies - GH/CAV	4,000	3,000	2,541	(459)	4,000	-
WT - Sludge Hauling	39,500	29,625	32,482	2,857	45,000	5,500
WT - Maint of Water Treatment Plant	90,000	67,500	53,484	(14,016)	90,000	-
WT - Maint of Water Plant - GH/CAV	5,000	3,750	8,194	4,444	10,000	5,000
WT - Licenses & Subscriptions	34,000	25,500	14,267	(11,233)	25,000	(9,000)
TD - Salaries & Wages	389,144	291,858	294,354	2,496	389,144	-
TD - Materials & Supplies	20,000	15,000	14,363	(637)	25,000	5,000
TD - Maint of Dist Reservior & Standpipes	50,000	37,500	25,114	(12,386)	50,000	-
TD - Maint of Mains	120,000	90,000	83,015	(6,985)	120,000	-
TD - Maint of Services	150,000	112,500	111,348	(1,152)	160,000	10,000
TD - Maint of Meters	180,000	135,000	172,959	37,959	240,000	60,000
TD - Maint of Hydrants	15,000	11,250	33,834	22,584	50,000	35,000
CA - Salaries & Wages	197,629	148,222	134,865	(13,357)	197,629	-
CA - Billing Expense	40,000	30,000	42,510	12,510	65,000	25,000
CA - Licenses & Subscriptions (w/ Sensus)	64,500	48,375	16,670	(31,705)	64,500	-
CA - Bad Debt Expense	10,000	7,500	10,008	2,508	15,000	5,000
GA - Salaries & Wages	130,607	97,955	100,017	2,062	130,607	-
GA - Director Compensation	2,500	1,875	1,750	(125)	2,500	-
GA - Employee Insurance & Benefits	221,784	166,338	129,923	(36,415)	178,000	(43,784)
GA - Employee Pension Expense	98,776	74,082	70,161	(3,921)	98,776	-
GA - Payroll Taxes - FICA Tax Expense	83,959	62,970	63,010	40	83,959	-
GA - Employee 457 Expense	18,101	13,576	15,093	1,518	22,101	4,000
GA - Office Supplies & Expense	65,000	48,750	57,800	9,050	78,000	13,000
GA - Travel, Training, & Education	-	-	4,025	4,025	6,500	6,500
GA - Uniform Expense	-	-	5,489	5,489	8,000	8,000
GA - Computer - Technology	15,000	11,250	19,288	8,038	22,000	7,000
GA - Maint. of General Property	15,000	11,250	17,591	6,341	25,000	10,000
GA - Licenses & Subscriptions	30,000	22,500	5,069	(17,431)	30,000	-
GA - Contractual Services - Engineering	20,000	15,000	8,296	(6,704)	25,000	5,000
GA - Contractual Services - Accounting	20,000	15,000	15,375	375	20,000	-

Charles Town Utility Board
Water Fund
FY 2024 O&M Budget vs. Actual Detail
For Period Ended March 31, 2024

ACCOUNT DESCRIPTION	BUDGET ACTUAL	BUDGET YTD	ACTUAL YTD	VARIANCE YTD	BUDGET REVISION FY 2024	VARIANCE FY 2024 BUDGET
GA - Contractual Services - Legal	20,000	15,000	51,677	36,677	65,000	45,000
GA - Contractual Services - Other	20,000	15,000	15,165	165	20,000	-
GA - Rental of Building	15,000	11,250	10,200	(1,050)	15,300	300
GA - Transportation Expense	78,000	58,500	48,577	(9,923)	68,000	(10,000)
GA - Insurance	85,000	63,750	83,976	20,226	85,000	-
GA - Worker's Comp	35,000	26,250	13,973	(12,277)	26,000	(9,000)
GA - Regulatory Commission Expense	20,000	15,000	5,304	(9,696)	20,000	-
GA - Misc. General Expense	10,000	7,500	5,194	(2,306)	10,000	-
GA - Advertising & Publication Expense	-	-	2,664	240	4,000	4,000
GA - Bond Administration Fees	6,000	4,500	2,782	(1,718)	6,000	-
TOTAL OPERATING EXPENSES	**$ 3,232,029**	**$ 2,424,022**	**$ 2,398,298**	**$ (28,148)**	**$ 3,433,544**	**$ 201,516**

WS - Water Source of Supply
WT - Water Treatment (Plant)
TD - Transmission & Distribution (Maint)
CA - Customer Accounting (Billing & Finance)
GA - General & Administrative

FY 2024 Budget Revision Summary:

Revenues:

Operating revenues increased in FY 2023 but were slightly lower than expected. The FY 2024 revenues were increased based on an analysis of the FY 2023 revenues to date and anticipated growth in certain areas. The Charles Town Utility Board has had a record number of new customers and the significant increase in operating revenues is primarily a result of system growth. The average number of customers has increased by 243 for water in the first 9 months of this fiscal year. Additionally, the revenues were adjusted for the last quarter of FY 2024 based on the recent rate increase for water and the equalization of the Glen Haven and Cavaland water rates.

Expenses:

The FY 2024 expenses increased in total to account for various items approved by the Board, price increases from our vendors, outstanding purchase orders and anticipated expenditures in the next few months. The budget adjustments consist of the typical line-item adjustments (increases/decreases) based on the actual expected costs and changes utilizing the previous assumptions.

Below are the major changes in FY 2024:

- Water treatment plant expenses increased due to repairs at the intake, price of material, power at the plant, chemicals and sludge removal from the plant.
- Testing and license fees were reduced to the actual cost of the 120 Water lead and copper program and test kits which were lower than the estimate received.
- Maintenance expenses were the most significant increase this year because of the additional meters that have been added to our system, replacement of meters and hydrant repairs.
- Employee insurance and benefits included training and other employee expenses that have now been separated. The anticipated increase in premiums for PEIA were lower than expected this year, but will increase 14% in FY 2025.

Charles Town Utility Board
Sewer Fund
FY 2024 Budget Revision
For Year Ending June 30, 2024

	FY 2024 Budget (Approved 4/26/2023)	FY 2024 Budget Revision (For approval 4/10/2024)
OPERATING REVENUES		
Sales and Services to Customers	$ 6,496,000	$ 6,884,000
Total Operating Revenues	6,496,000	6,884,000
OPERATING EXPENSES		
Salaries, Wages, and Benefits	1,670,800	1,635,281
Contractual Services	280,000	260,000
Administrative and General	297,500	315,500
Material and Supplies	527,000	562,300
Utilities	370,000	390,000
Maintenance	988,000	1,090,000
License Fees and Subscriptions	88,000	90,000
Total Operating Expenses	4,221,300	4,343,081
Operating Income (before dep expense)	2,274,700	2,540,919
Depreciation Expense (non-cash)	(2,042,000)	(2,205,421)
Operating Income	232,700	335,498
NON-OPERATING REVENUES (EXPENSES)		
Misc. Sewer Revenues	25,000	30,000
Interest Income	27,000	162,000
Sinking Fund Income	90,000	160,000
Interest on Long Term Debt	(320,000)	(603,946)
Total Non-Operating Revenues (Expenses)	(178,000)	(251,946)
Net Income (Loss)	$ 54,700	$ 83,552

Charles Town Utility Board
Sewer Fund
Budget Comparison
For Year Ending June 30, 2024

	FY 2022 ACTUAL	FY 2023 ACTUAL	FY 2024 BUDGET	FY 2024 YTD @ 3/31	FY 2024 REVISION	VARIANCE
OPERATING REVENUES						
CTUB Revenue	$ 2,322,727	$ 2,386,475	$ 2,432,000	$ 1,949,857	$ 2,600,000	$ 168,000
Ranson Revenue	1,375,136	1,380,961	1,414,000	1,113,567	1,500,000	86,000
JCPSD Revenue	2,442,288	2,513,120	2,526,000	2,070,958	2,660,000	134,000
Customer Penalties	37,066	40,989	42,000	31,186	42,000	-
Customer Penalties - RA	22,271	29,204	30,000	24,061	30,000	-
Customer Penalties - PSD	39,799	48,949	52,000	36,994	52,000	-
TOTAL OPERATING REVENUES	**6,239,287**	**6,399,697**	**6,496,000**	**5,226,623**	**6,884,000**	**388,000**
OPERATING EXPENSES						
Collection System						
Materials & Supplies	12,379	16,561	20,000	3,212	15,000	(5,000)
Maint of Service Connections	48,744	15,674	55,000	43,502	65,000	10,000
Maint of Collecting & Trans. Mains	164,145	202,377	220,000	98,066	180,000	(40,000)
Total Collection System	225,268	234,612	295,000	144,780	260,000	(35,000)
Pumping System						
Salaries & Wages	306,999	322,237	402,006	298,506	402,006	-
Power	111,591	125,274	135,000	102,398	140,000	5,000
Materials & Supplies	16,530	18,444	25,000	14,620	25,000	-
Sludge Hauling	-	38,216	40,000	46,643	65,000	25,000
Maint of Pump Stations	191,129	120,047	210,000	116,535	180,000	(30,000)
Total Pumping System	626,249	624,217	812,006	578,702	812,006	-
Wastewater Treatment & Disposal						
Salaries & Wages	232,759	268,744	313,509	240,639	313,509	-
Power - CT Plant	126,830	139,034	135,000	111,191	150,000	15,000
Power - TUI	79,684	91,713	90,000	38,735	90,000	-
Power - Deerfield	7,178	6,179	10,000	3,121	10,000	-
Chemical Expense - CT	154,853	177,471	175,000	102,678	180,000	5,000
Chemical Expense - TUI	17,927	6,977	20,000	18,094	25,000	5,000
Testing - CT	26,431	30,144	35,000	23,223	35,000	-
Testing - TUI	6,191	14,304	12,000	8,129	12,000	-
Materials & Supplies	99,310	77,336	80,000	47,641	80,000	-
Sludge Hauling - CT	-	4,703	5,000	-	-	(5,000)
Sludge Hauling - TUI	-	22,633	13,000	39,601	60,000	47,000
Maint. Burns Farm	74,744	114,560	110,000	72,137	110,000	-
Maint. Treatment Plant - CT	118,213	183,209	200,000	177,091	240,000	40,000
Maint. Treatment Plant - TUI	70,802	102,802	90,000	100,382	145,000	55,000
Maint. Treatment Plant - Deerfield	23,875	1,672	15,000	8,270	15,000	-
Total Wastewater Treatment & Disposal	1,038,797	1,241,482	1,303,509	990,931	1,465,509	162,000
Billing & Accounting Expenses						
Salaries & Wages	200,143	211,963	246,780	176,343	246,780	-
Billing Expense	88,263	86,603	60,000	49,206	75,000	15,000
License Fees & Subscriptions	-	20,090	40,000	16,670	40,000	-
Bad Debt Expense	16,230	14,723	15,000	18,286	25,000	10,000
Total Billing & Accounting	304,636	333,379	361,780	260,505	386,780	25,000
Administrative & General Expenses						

Charles Town Utility Board
Sewer Fund
Budget Comparison
For Year Ending June 30, 2024

	FY 2022 ACTUAL	FY 2023 ACTUAL	FY 2024 BUDGET	FY 2024 YTD @ 3/31	FY 2024 REVISION	VARIANCE
Salaries & Wages	180,454	191,897	205,113	156,739	205,113	-
Director Compensation	-	2,375	2,500	1,750	2,500	-
Employee Insurance & Benefits	143,532	142,750	256,412	132,763	210,000	(46,412)
Employee Pension - PERS	90,706	41,052	105,067	77,584	105,067	-
Payroll Taxes - FICA	71,979	76,339	89,307	67,603	89,307	-
OPEB	14,566	(59,230)	-	-	-	-
Employee Pension - 457 Plan	-	16,205	17,608	14,204	20,000	2,392
Office Supplies & Expense	113,797	67,884	75,000	59,566	85,000	10,000
Travel, Training, & Education	-	15,545	-	9,184	12,000	12,000
Uniform Expense	-	3,952	-	4,873	6,500	6,500
Computers - Technology	-	13,614	18,000	15,439	20,000	2,000
Maintenance of General Property	28,583	23,135	30,000	15,227	30,000	-
License Fees & Subscriptions	-	13,537	30,000	7,403	30,000	-
Contractual Services - Engineering	48,685	24,850	35,000	3,385	35,000	-
Contractual Services - Accounting	28,840	37,950	40,000	13,725	30,000	(10,000)
Contractual Services - Legal	143,648	214,365	180,000	73,170	180,000	-
Contractual Services - Other	45,327	11,599	25,000	5,550	15,000	(10,000)
Rental of Office Building	-	-	15,000	10,200	15,300	300
Transportation Expense	67,391	84,099	85,000	63,170	90,000	5,000
Property Insurance	90,706	73,986	110,000	83,976	110,000	-
Worker's Comp	26,736	30,365	35,000	12,901	25,000	(10,000)
Regulatory Commission Expense	24,984	19,383	30,000	9,729	30,000	-
Misc. General Expense	7,830	12,084	10,000	8,096	15,000	5,000
Advertising & Publication Expense	-	4,801	-	1,212	3,000	3,000
Bond Administration Fees	51,328	51,257	55,000	25,201	55,000	-
Total Administrative & General	1,179,092	1,113,794	1,449,006	872,651	1,418,787	(30,220)
TOTAL OPERATING EXPENSES	**3,374,042**	**3,547,485**	**4,221,300**	**2,847,569**	**4,343,081**	**121,780**
Operating Income (before Depreciation)	2,865,245	2,852,212	2,274,700	2,379,054	2,540,919	266,220
Depreciation Exp (Non-cash, not budgeted)	(1,897,227)	(2,205,421)	(2,042,000)	(1,654,066)	(2,205,421)	-
OPERATING INCOME (LOSS)	**968,018**	**646,791**	**232,700**	**724,988**	**335,498**	**102,799**
NON-OPERATING REVENUES (EXPENSES)						
Misc. Sewer Revenues	20,760	17,547	25,000	21,610	30,000	5,000
Interest Income	7,649	35,020	27,000	121,418	162,000	135,000
Sinking Fund Income	728	158,637	90,000	131,000	160,000	70,000
Bond Issuance Costs	(32,856)	(192,863)	-	-	-	-
Gain on Sale of Assets	-	52,159	-	-	-	-
Loss on Retirement of Assets	(153,496)	(45,671)	-	-	-	-
Interest Expense - Other	(60,254)	-	-	-	-	-
Interest on Long-term Debt	(318,002)	(559,831)	(320,000)	(303,262)	(603,946)	(283,946)
TOTAL NON-OPERATING REVENUES (EXP)	**(535,472)**	**(535,003)**	**(178,000)**	**(29,234)**	**(251,946)**	**(73,946)**
NET INCOME (LOSS)	**$ 432,546**	**$ 111,788**	**$ 54,700**	**$ 695,754**	**$ 83,552**	**$ 28,853**

Charles Town Utility Board
Sewer Fund
FY 2024 O&M Budget vs. Actual Detail
For Period Ended March 31, 2024

ACCOUNT DESCRIPTION	BUDGET ACTUAL	BUDGET YTD	ACTUAL YTD	VARIANCE YTD	PROPOSED BUDGET REVISION	VARIANCE FY 2024 BUDGET
OPERATING REVENUES						
CTUB Revenue	$ 2,432,000	$ 1,824,000	$ 1,949,857	$ 125,857	$ 2,600,000	$ 168,000
Ranson Revenue	1,414,000	1,060,500	1,113,567	53,067	1,500,000	$ 86,000
JCPSD Revenue	2,526,000	1,894,500	2,070,958	176,458	2,660,000	$ 134,000
Customer Penalties	42,000	31,500	31,186	(314)	42,000	$ -
Customer Penalties - RA	30,000	22,500	24,061	1,561	30,000	$ -
Customer Penalties - PSD	52,000	39,000	36,994	(2,006)	52,000	$ -
TOTAL OPERATING REVENUES	$ 6,496,000	$ 4,872,000	$ 5,226,623	$ 354,623	$ 6,884,000	$ 388,000
OPERATING EXPENSES						
CS - Materials & Supplies	20,000	15,000	3,212	(11,788)	15,000	(5,000)
CS - Maint of Service Connections	55,000	41,250	43,502	2,252	65,000	10,000
CS - Maint of Collecting & Trans. Mains	220,000	165,000	98,066	(66,934)	180,000	(40,000)
PS - Salaries & Wages	402,006	301,504	298,506	(2,998)	402,006	-
PS - Power	135,000	101,250	102,398	1,148	140,000	5,000
PS - Materials & Supplies	25,000	18,750	14,620	(4,130)	25,000	-
PS - Sludge Hauling	40,000	30,000	46,643	16,643	65,000	25,000
PS - Maint of Pump Stations	210,000	157,500	116,535	(40,965)	180,000	(30,000)
TD - Salaries & Wages	313,509	235,132	240,639	5,507	313,509	-
TD - Power - CT Plant	135,000	101,250	111,191	9,941	150,000	15,000
TD - Power - TUI	90,000	67,500	38,735	(28,765)	90,000	-
TD - Power - Deerfield	10,000	7,500	3,121	(4,379)	10,000	-
TD - Chemical Expense - CT	175,000	131,250	102,678	(28,572)	180,000	5,000
TD - Chemical Expense - TUI	20,000	15,000	18,094	3,094	25,000	5,000
TD - Testing - CT	35,000	26,250	23,223	(3,027)	35,000	-
TD - Testing - TUI	12,000	9,000	8,129	(871)	12,000	-
TD - Materials & Supplies	80,000	60,000	47,641	(12,359)	80,000	-
TD - Sludge Hauling - CT	5,000	3,750	-	(3,750)	-	(5,000)
TD - Sludge Hauling - TUI	13,000	9,750	39,601	29,851	60,000	47,000
TD - Maint. Burns Farm	110,000	82,500	72,137	(10,363)	110,000	-
TD - Maint. Treatment Plant - CT	200,000	150,000	177,091	27,091	240,000	40,000
TD - Maint. Treatment Plant - TUI	90,000	67,500	100,382	32,882	145,000	55,000
TD - Maint. Treatment Plant - Deerfield	15,000	11,250	8,270	(2,980)	15,000	-
CA - Salaries & Wages	246,780	185,085	176,343	(8,741)	246,780	-
CA - Billing Expense	60,000	45,000	49,206	4,206	75,000	15,000
CA - Licenses & Subscriptions	40,000	30,000	16,670	(13,330)	40,000	-
CA - Bad Debt Expense	15,000	11,250	18,286	7,036	25,000	10,000
GA - Salaries & Wages	205,113	153,835	156,739	2,904	205,113	-
GA - Director Compensation	2,500	1,875	1,750	(125)	2,500	-
GA - Employee Insurance & Benefits	256,412	192,309	132,763	(59,546)	210,000	(46,412)
GA - Employee Pension Expense	105,067	78,800	77,584	(1,216)	105,067	-
GA - Payroll Taxes - FICA Tax Expense	89,307	66,980	67,603	623	89,307	-
GA - Employee 457 Expense	17,608	13,206	14,204	998	20,000	2,392
GA - Office Supplies & Expense	75,000	56,250	59,566	3,316	85,000	10,000
GA - Travel, Training, & Education	-	-	9,184	-	12,000	12,000
GA - Uniform Expense	-	-	4,873	-	6,500	6,500
GA - Computer - Technology Expense	18,000	13,500	15,439	1,939	20,000	2,000
GA - Maint. of General Property	30,000	22,500	15,227	(7,273)	30,000	-
GA - Licenses & Subscriptions	30,000	22,500	7,403	(15,097)	30,000	-

Charles Town Utility Board
Sewer Fund
FY 2024 O&M Budget vs. Actual Detail
For Period Ended March 31, 2024

ACCOUNT DESCRIPTION	BUDGET ACTUAL	BUDGET YTD	ACTUAL YTD	VARIANCE YTD	PROPOSED BUDGET REVISION	VARIANCE FY 2024 BUDGET
GA - Contractual Services - Engineering	35,000	26,250	3,385	(22,865)	35,000	-
GA - Contractual Services - Accounting	40,000	30,000	13,725	(16,275)	30,000	(10,000)
GA - Contractual Services - Legal	180,000	135,000	73,170	(61,830)	180,000	-
GA - Contractual Services - Other	25,000	18,750	5,550	(13,200)	15,000	(10,000)
GA - Rental of Building	15,000	11,250	10,200	(1,050)	15,300	300
GA - Transportation Expense	85,000	63,750	63,170	(580)	90,000	5,000
GA - Insurance	110,000	82,500	83,976	1,476	110,000	-
GA - Worker's Comp	35,000	26,250	12,901	(13,349)	25,000	(10,000)
GA - Regulatory Commission Expense	30,000	22,500	9,729	(12,771)	30,000	-
GA - Misc. General Expense	10,000	7,500	8,096	596	15,000	5,000
GA - Advertising & Publication Expense	-	-	1,212	1,212	3,000	3,000
GA - Bond Administration Fees	55,000	41,250	25,201	(16,049)	55,000	-
TOTAL OPERATING EXPENSES	**$ 4,221,300**	**$ 3,165,975**	**$ 2,847,569**	**$ (318,406)**	**$ 4,343,081**	**$ 121,780**

CS - Collection System
PS - Pump Stations
TD - Wastewater Treatment & Disposal
CA - Customer Accounting (Billing & Finance)
GA - General & Administrative

FY 2024 Budget Revision Summary

Revenues:

FY 2024 revenues were increased based on an analysis of the FY 2023 revenues to date and anticipated growth in certain areas. The Charles Town Utility Board has had a record number of new customers and the significant increase in operating revenues is primarily a result of system growth. The average number of customers has increased by 366 for sewer in the first 9 months of this fiscal year. Additionally, the revenues were adjusted for the last quarter of FY 2024 based on the recent rate changes to equalize the sewer rates.

Expenses:

The FY 2024 expenses increased in total to account for various items approved by the Board, price increases from our vendors, outstanding purchase orders and anticipated expenditures in the next few months. The budget adjustments consist of the typical line-item adjustments (increases/decreases) based on the actual expected costs and changes utilizing the previous assumptions.

Below are the major changes in FY 2024:

- Wastewater treatment plant expenses increased due to repairs at both plants, price of material, power at the plant, chemicals and sludge removal from the plant.
- Employee insurance and benefits included training and other employee expenses that have now been separated. The anticipated increase in premiums for PEIA were lower than expected this year, but will increase 14% in FY 2025.

Charles Town
Utility Board
661 S. George Street, Suite 101 Charles Town, WV 25414
Phone: (304) 725-2316 ♦ Fax: (304) 725-7150 ♦ Web: www.ctubwv.com

MEMORANDUM TO THE BOARD OF DIRECTORS

FROM: Kristen Stolipher, Utility General Manager
SUBJECT: Utility General Manager's Report
DATE: March 13, 2024

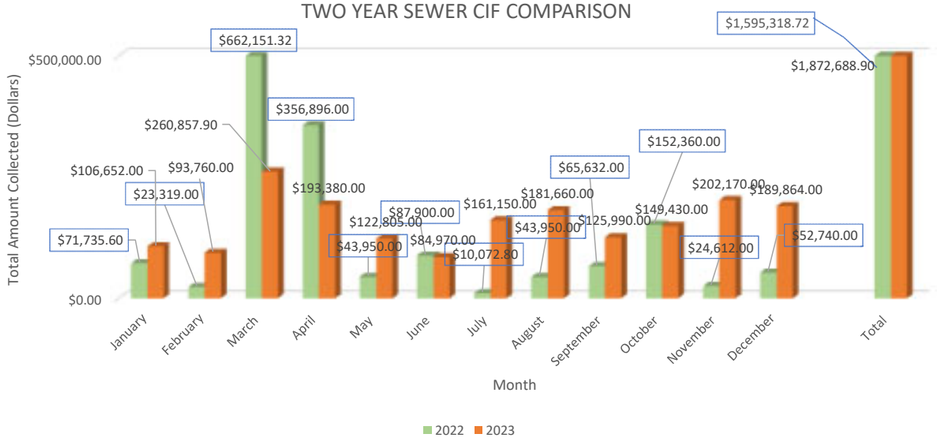
- **Customer Counts**
  - Sewer 8,896
  - Water 6,893

- **Strategic Plans**
  - Water Strategic Plan last adopted June 2022. After review no significant updates required. CTUB will continue to review and update as needed. Next update 2025.
  - Sewer Strategic Plan update included for review.
  - Review and Adoption of updated plans in April/May 2024

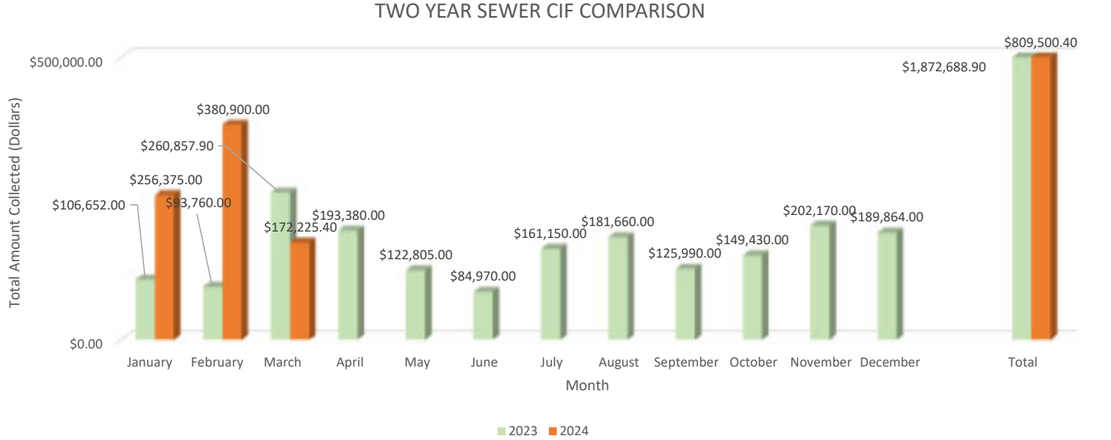
- **Renewal and Replacement project on track for completion in fall/winter 2024**

- **Greenfield Forcemain upsizing project**
  - Project to be terminated due to re-design and Contractor issues.
  - CTUB will need re-design and re-bidding.

Charles Town Utility Board 2023 Capacity Improvement Fee Collections/EDU for Sewer						
Month	**Commercial**	**Residential**	**Total Number of EDU's**	**Total Sewer CIF Collected**	**CIF Paid to Ranson**	**Total**
Jan-23		36.4	36.4	$ 116,402.00	$ 9,750.00	$ 106,652.00
Feb-23		32	32	$ 93,760.00		$ 93,760.00
Mar-23	4.03	85	89.03	$ 286,906.65	$ 26,048.75	$ 260,857.90
Apr-23		66	66	$ 206,380.00	$ 13,000.00	$ 193,380.00
May-23	5.19	36	41.19	$ 139,380.00	$ 17,550.00	$ 122,805.00
Jun-23		29	29	$ 84,970.00		$ 84,970.00
Jul-23		55	55	$ 237,525.00	$ 76,375.00	$ 161,150.00
Aug-23		62	62	$ 202,785.00	$ 21,125.00	$ 181,660.00
Sep-23		43	43	$ 156,865.00	$ 30,875.00	$ 125,990.00
Oct-23		51	51	$ 191,680.00	$ 42,250.00	$ 149,430.00
Nov-23		69	69	$ 237,920.00	$ 35,750.00	$ 202,170.00
Dec-23	33	32	65	$ 196,364.00	$ 6,500.00	$ 189,864.00
Total 2023	**42.02**	**491.4**	**638.42**	**$ 2,150,937.65**	**$ 279,223.75**	**$ 1,872,688.90**



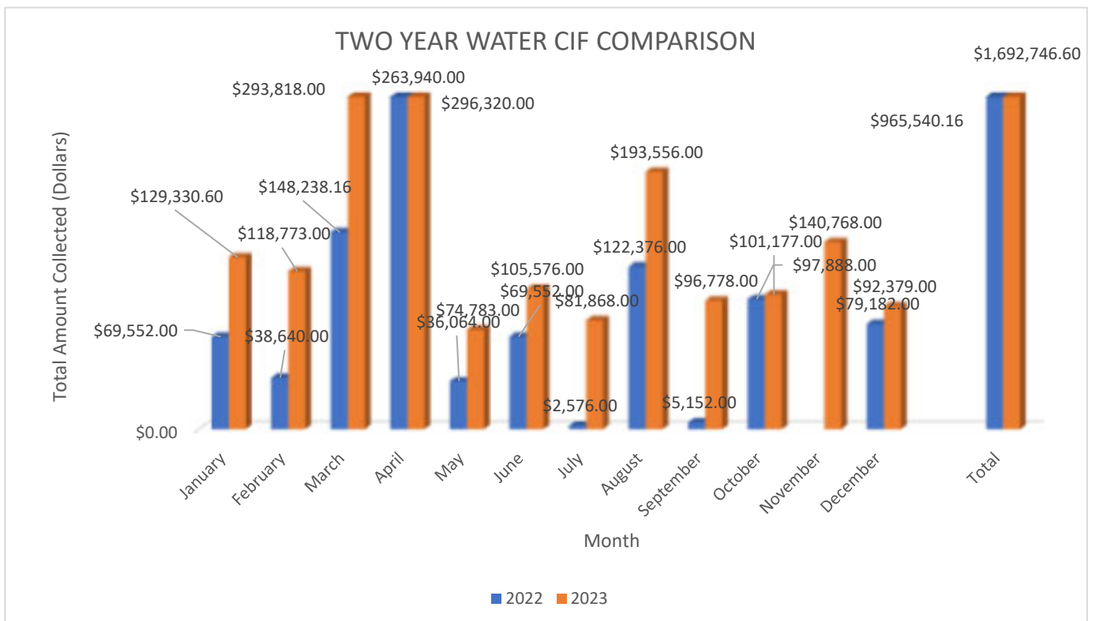
Charles Town Utility Board 2024 Capacity Improvement Fee Collections/EDU for Sewer						
Month	**Commercial**	**Residential**	**Total Number of EDU's**	**Total Sewer CIF Collected**	**CIF Paid to Ranson**	**Total**
Jan-24	1.5	86	87.5	$ 289,687.50	$ 33,312.50	$ 256,375.00
Feb-24		130	130	$ 458,900.00	$ 78,000.00	$ 380,900.00
Mar-24	6.78	52	58.78	$ 181,975.40	$ 9,750.00	$ 172,225.40
Apr-24						
May-24						
Jun-24						
Jul-24						
Aug-24						
Sep-24						
Oct-24						
Nov-24						
Dec-24						
Total 2024	**8.28**	**268**	**276.28**	**$ 930,562.90**	**$ 121,062.50**	**$ 809,500.40**

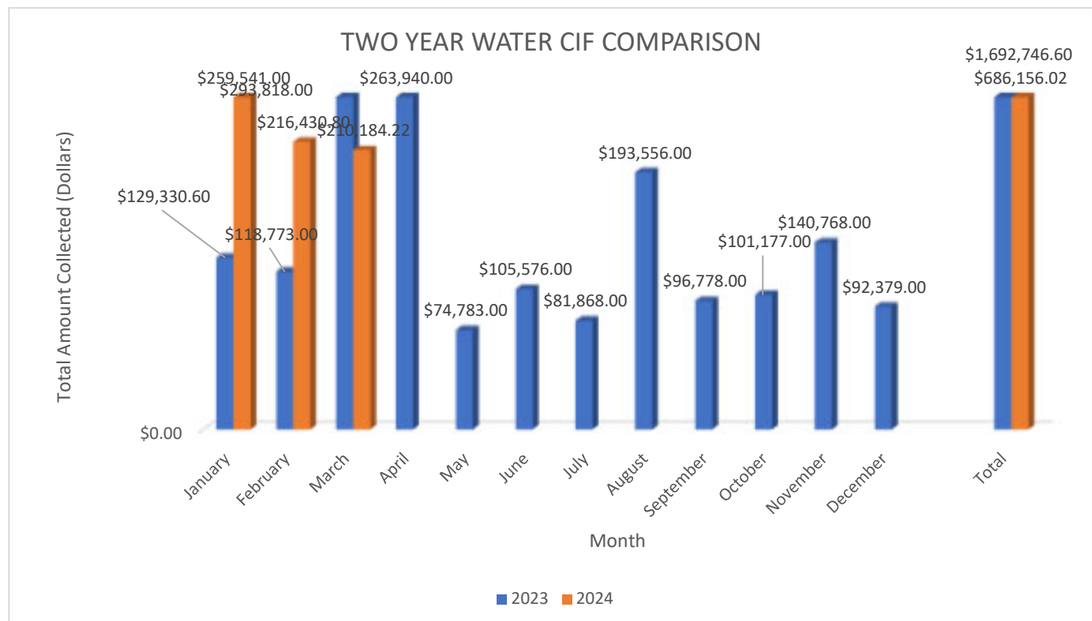


Water CIF Tracking as of April 2, 2024

2023 Capacity Improvement Fee Collections/EDU for Water				
Month	**Commercial**	**Residential**	**Total Number of EDU's**	**Total Water CIF**
Jan-23		30.4	30.4	$ 129,330.60
Feb-23		27	27	$ 118,773.00
Mar-23		81.5	81.5	$ 293,818.00
Apr-23		60	60	$ 263,940.00
May-23		17	17	$ 74,783.00
Jun-23		24	24	$ 105,576.00
Jul-23	24.95	4	28.95	$ 81,868.00
Aug-23		44	44	$ 193,556.00
Sep-23		22	22	$ 96,778.00
Oct-23		23	23	$ 101,177.00
Nov-23		32	32	$ 140,768.00
Dec-23		21	21	$ 92,379.00
Total 2023	**24.95**	**362.9**	**410.85**	**$ 1,692,746.60**

2024 Capacity Improvement Fee Collections/EDU for Water				
Month	**Commercial**	**Residential**	**Total Number of EDU's**	**Total Water CIF**
Jan-24		59	59	$ 259,541.00
Feb-24		49.2	49.2	$ 216,430.80
Mar-24	6.78	41	47.78	$ 210,184.22
Apr-24				
May-24				
Jun-24				
Jul-24				
Aug-24				
Sep-24				
Oct-24				
Nov-24				
Dec-24				
Total 2024	**6.78**	**149.2**	**155.98**	**$ 686,156.02**





CHARLES TOWN UTILITY BOARD
WASTEWATER TREATMENT PLANT FLOW DATA

CHARLES TOWN WASTEWATER PLANT FLOW DATA						
YEAR	Total Design (MGD)	TOTAL ANNUAL FLOW (MG)	AVERAGE DAILY (MGD)	Total Design minus Average Daily (MGD)	Total Available (gpd)	Total Available (EDU's)
2015	1.75	384	1.05	0.7	700,000	4,667
2016	1.75	419	1.14	0.61	610,000	4,067
2017	1.75	393	1.08	0.67	670,000	4,467
2018	1.75	491	1.34	0.41	410,000	2,733
2019	1.75	459	1.26	0.49	490,000	3,267
2020	1.75	419.7	1.15	0.60	603,333	4,022
2021	1.75	401.61	1.11	0.64	637,500	4,250
2022	1.75	387.15	1.06	0.69	687,500	4,583
2023	1.75	382.28	1.06	0.69	694,167	4,628
2024	1.75	109.48	1.20	0.55	546,667	3,644

TUSCAWILLA WASTEWATER PLANT FLOW DATA						
YEAR	Total Design (MGD)	TOTAL ANNUAL FLOW (MG)	AVERAGE DAILY (MGD)	Total Design minus Average Daily (MGD)	Total Available (gpd)	Total Available (EDU's)
2015	0.5	48	0.13	0.37	370,000	2,467
2016	0.5	49	0.13	0.37	370,000	2,467
2017	0.5	48	0.14	0.36	360,000	2,400
2018	0.5	78	0.21	0.29	290,000	1,933
2019	0.5	55.24	0.15	0.35	350,000	2,333
2020	0.5	1.09	0.16	0.34	340,000	2,267
2021	0.5	32.55	0.10	0.40	400,833	2,672
2022	0.5	62.8	0.17	0.33	328,333	2,189
2023	0.5	83.78	0.23	0.27	270,000	1,800
2024	0.5	23.14	0.25	0.25	246,667	1,644

Total EDU's available between CT and Tuscawilla	
2015	7,133
2016	6,533
2017	6,867
2018	4,667
2019	5,600
2020	6,289
2021	6,922
2022	6,772
2023	6,428
2024	5,289

Legend:
MGD= Million gallons per day
MG=million gallons
gpd= gallons per day
EDU= Equivalent Dwelling Unit (150 gpd)

2022		
	Total (MG)	AVERAGE (MG)
JANUARY	37.25	1.20
FEBRUARY	33.8	1.21
MARCH	33.28	1.07
APRIL	32.98	1.1
MAY	35.86	1.16
JUNE	29.9	1.00
JULY	29.78	0.96
AUGUST	30.19	1.01
SEPTEMBER	29.62	0.96
OCTOBER	29.02	0.94
NOVEMBER	30.09	1.00
DECEMBER	35.38	1.14
Annual Total	387.15	1.06

2023		
	Total (MG)	AVERAGE (MG)
JANUARY	36.55	1.21
FEBRUARY	28.96	1.03
MARCH	30.46	1.02
APRIL	29.52	0.98
MAY	30.78	0.99
JUNE	29.64	0.99
JULY	31.2	1.01
AUGUST	29.96	1.00
SEPTEMBER	33.38	1.11
OCTOBER	33.02	1.07
NOVEMBER	33.61	1.12
DECEMBER	35.2	1.14
Annual Total	382.28	1.06

2024		
	Total (MG)	AVERAGE (MG)
JANUARY	36.06	1.16
FEBRUARY	34.43	1.19
MARCH	38.99	1.26
APRIL		
MAY		
JUNE		
JULY		
AUGUST		
SEPTEMBER		
OCTOBER		
NOVEMBER		
DECEMBER		
Annual Total	109.48	1.20

2022		
	Total (MG)	AVERAGE (MG)
JANUARY	0	0
FEBRUARY	0	0
MARCH	4.34	0.14
APRIL	4.68	0.16
MAY	6.03	0.19
JUNE	6.21	0.21
JULY	6.48	0.21
AUGUST	7.01	0.23
SEPTEMBER	7.11	0.24
OCTOBER	7.27	0.23
NOVEMBER	6.94	0.23
DECEMBER	6.73	0.22
Annual Total	62.8	0.17

2023		
	Total (MG)	AVERAGE (MG)
JANUARY	7.3	0.24
FEBRUARY	6.38	0.23
MARCH	6.41	0.21
APRIL	6.13	0.20
MAY	6.30	0.20
JUNE	6.89	0.23
JULY	7.31	0.24
AUGUST	7.7	0.25
SEPTEMBER	6.98	0.23
OCTOBER	6.92	0.22
NOVEMBER	7.22	0.24
DECEMBER	8.24	0.27
Annual Total	83.78	0.230

2024		
	Total (MG)	AVERAGE (MG)
JANUARY	8.61	0.28
FEBRUARY	8.25	0.28
MARCH	6.28	0.2
APRIL		
MAY		
JUNE		
JULY		
AUGUST		
SEPTEMBER		
OCTOBER		
NOVEMBER		
DECEMBER		
Annual Total	23.14	0.253

CHARLES TOWN UTILITY BOARD
WATER TREATMENT PLANT FLOW DATA

CHARLES TOWN WATER PLANT FLOW DATA						
YEAR	Total Design (MGD)	TOTAL ANNUAL FLOW (MG)	AVERAGE DAILY (MGD)	Total Design minus Average Daily (MGD)	Total Available (gpd)	Total Available (EDU's)
2019	2.8	644.32	1.77	1.03	1,034,980	6,900
2020	2.8	615.64	1.68	1.12	1,117,946	7,453
2021	2.8	601.87	1.64	1.16	1,164,627	7,764
2022	2.8	588.97	1.60	1.20	1,204,163	8,028
2023	2.8	602.24	1.63	1.17	1,168,256	7,788
2024	2.8	1,386.77	1.54	1.26	1,257,909	8,386

GLEN HAVEN WATER PLANT FLOW DATA						
YEAR	Total Design (MGD)	TOTAL ANNUAL FLOW (MG)	AVERAGE DAILY (MGD)	Total Design minus Average Daily (MGD)	Total Available (gpd)	
2020	0.0216	1.04	0.01	0.01	13,120	
2021	0.0216	3.06	0.01	0.01	13,213	-
2022	0.0216	2.70	0.01	0.01	14,335	-
2023	0.0216	2.99	0.01	0.01	13,573	-
2024	0.0216	0.62	0.01	0.02	15,033	-

CAVALAND WATER PLANT FLOW DATA						
YEAR	Total Design (MGD)	TOTAL ANNUAL FLOW (MG)	AVERAGE DAILY (MGD)	Total Design minus Average Daily (MGD)	Total Available (gpd)	
2020	0.036	0.59	0.005	0.03	31,210	
2021	0.036	1.91	0.01	0.03	30,766	
2022	0.036	1.84	0.005	0.03	31,041	
2023	0.036	1.79	0.005	0.03	31,186	
2024	0.036	0.00	0.00	0.03	31,292	

Legend:
MGD= Million gallons per day
MG=million gallons
gpd= gallons per day
EDU= Equivalent Dwelling Unit (150 gpd)

2022		
	Total (MG)	AVERAGE (MG)
JANUARY	47,918,736	1,545,766
FEBRUARY	43,703,896	1,560,853
MARCH	48,063,482	1,550,435
APRIL	47,294,978	1,525,644
MAY	49,834,352	1,607,560
JUNE	49,111,936	1,584,256
JULY	51,919,787	1,674,832
AUGUST	51,872,384	1,673,303
SEPTEMBER	50,844,952	1,640,160
OCTOBER	50,572,280	1,631,364
NOVEMBER	47,643,899	1,536,900
DECEMBER	50,188,260	1,618,976
Annual Total	588,968,942	1,595,837

2023		
	Total (MG)	AVERAGE (MG)
JANUARY	50,324,969	1,623,386
FEBRUARY	44,512,256	1,589,723
MARCH	51,243,776	1,653,025
APRIL	49,507,092	1,597,003
MAY	51,882,496	1,673,629
JUNE	51,245,216	1,653,071
JULY	53,546,017	1,727,291
AUGUST	53,866,467	1,737,628
SEPTEMBER	51,067,174	1,647,328
OCTOBER	49,781,275	1,605,848
NOVEMBER	47,073,432	1,518,498
DECEMBER	48,189,312	1,554,494
Annual Total	602,239,482	1,631,744

2024		
	Total (MG)	AVERAGE (MG)
JANUARY	48,027,207	1,549,265
FEBRUARY	44,217,320	1,579,190
MARCH	46,432,344	1,497,818
APRIL		
MAY		
JUNE		
JULY		
AUGUST		
SEPTEMBER		
OCTOBER		
NOVEMBER		
DECEMBER		
Annual Total	138,676,871	1,542,091

2022		
	Total (MG)	AVERAGE (MG)
JANUARY	204,300	6,590
FEBRUARY	178,600	5,761
MARCH	191,200	6,168
APRIL	222,000	7,161
MAY	237,300	7,655
JUNE	286,600	9,245
JULY	301,600	9,729
AUGUST	262,800	8,477
SEPTEMBER	221,600	7,148
OCTOBER	236,700	7,635
NOVEMBER	215,200	6,942
DECEMBER	144,500	4,661
Annual Total	2,702,400	7,265

2023		
	Total (MG)	AVERAGE (MG)
JANUARY	233,300	7,526
FEBRUARY	184,300	5,945
MARCH	218,200	7,039
APRIL	234,800	7,574
MAY	264,800	8,542
JUNE	268,900	8,674
JULY	325,100	10,487
AUGUST	281,300	9,074
SEPTEMBER	265,600	8,568
OCTOBER	233,900	7,545
NOVEMBER	242,500	7,823
DECEMBER	233,500	7,532
Annual Total	2,986,200	8,027

2024		
	Total (MG)	AVERAGE (MG)
JANUARY	234,900	7,577
FEBRUARY	182,100	5,874
MARCH	206,200	6,250
APRIL		
MAY		
JUNE		
JULY		
AUGUST		
SEPTEMBER		
OCTOBER		
NOVEMBER		
DECEMBER		
Annual Total	623,200	6,567

2022		
	Total (MG)	AVERAGE (MG)
JANUARY	150,100	4,842
FEBRUARY	127,200	4,103
MARCH	130,300	4,203
APRIL	141,600	4,568
MAY	145,000	4,677
JUNE	155,500	5,016
JULY	173,500	5,597
AUGUST	167,200	5,394
SEPTEMBER	138,500	4,468
OCTOBER	144,300	4,655
NOVEMBER	145,300	4,687
DECEMBER	226,300	7,300
Annual Total	1,844,800	4,959

2023		
	Total (MG)	AVERAGE (MG)
JANUARY	134,900	4,352
FEBRUARY	122,700	3,958
MARCH	140,000	4,516
APRIL	143,100	4,616
MAY	153,400	4,948
JUNE	166,200	5,361
JULY	166,400	5,368
AUGUST	170,400	5,497
SEPTEMBER	163,600	5,277
OCTOBER	140,600	4,535
NOVEMBER	143,200	4,619
DECEMBER	146,400	4,723
Annual Total	1,790,900	4,814

2024		
	Total (MG)	AVERAGE (MG)
JANUARY	155,600	5,019
FEBRUARY	135,000	4,355
MARCH	148,800	4,750
APRIL		
MAY		
JUNE		
JULY		
AUGUST		
SEPTEMBER		
OCTOBER		
NOVEMBER		
DECEMBER		
Annual Total	439,400	4,708

VENDOR SORT KEY	DESCRIPTION	FUND	DEPARTMENT	AMOUNT

APPROVED BY: _____

APPROVED BY: _____

This Packet:	$ 216,842.88
CT Sewer R&R, check dated 3/27/2024:	2,193.01
CT Water R&R, check dated 3/27/2024:	10,860.53
T-Mobile, check dated 3/27/2024:	584.38
Burns Farm, check dated 4/10/2024:	8,234.00
City of Charles Town, check dated 4/10/2024:	18,988.81
City of Ranson, check dated 4/10/2024:	3,831.32
City of Ranson, CIF check dated 4/10/2024:	43,875.00
Total:	$ 305,409.93

VENDOR SORT KEY	DESCRIPTION	FUND	DEPARTMENT		AMOUNT
U.S. BANK	OFFICE SUPPLIES	WATER FUND	WATER		887.02
	SUBSCRIPTIONS	WATER FUND	WATER		162.75
	MAINT MAINS	WATER FUND	WATER		4,507.00
	MAINT SERVICES	WATER FUND	WATER		459.98
	MAINT METERS	WATER FUND	WATER		175.19
	PMPNG SUPPLIES	WATER FUND	WATER		322.17
	WTP SUPPLIES	WATER FUND	WATER		1,146.87
	GH/CAV SUPPLIES	WATER FUND	WATER		248.20
	MAINT SUPPLIES	WATER FUND	WATER		707.21
	UNIFORM EXPENSE	WATER FUND	WATER		326.85
	ADVERTISING	WATER FUND	WATER		326.96
	TRANSPORTATION	WATER FUND	WATER		286.08
	OFFICE SUPPLIES	SEWER FUND	SEWER		892.58
	SUBSCRIPTIONS	SEWER FUND	SEWER		162.75
	TRMNT &DSPSL SUPPLIES	SEWER FUND	SEWER		2,120.94
	PMPSTN SUPPLIES	SEWER FUND	SEWER		487.19
	PMPSTN MAINT	SEWER FUND	SEWER		186.05
	CTWWTP CLLCTN SYSTM	SEWER FUND	SEWER		53.56
	TRAINING	SEWER FUND	SEWER		2,675.28
	GEN EXPENSE	SEWER FUND	SEWER		257.09
	TRANSPORTATION	SEWER FUND	SEWER		1,338.91
				TOTAL:	17,730.63
HD SUPPLY INC	TNT, GLOVES, pH ELECTRODE	SEWER FUND	SEWER		3,024.39
	BOOTS, TIPS, TNT832, TNT83	SEWER FUND	SEWER		78.50
	BOOTS, TIPS, TNT832, TNT83	SEWER FUND	SEWER		1,544.22
				TOTAL:	4,647.11
WF DELAUTER & SONS INC	GREENFIELD FRCMN	SEWER FUND	NON-DEPARTMENTAL		22,050.34
				TOTAL:	22,050.34
WV STATE AUDITOR'S OFFICE	PRJCT# 19907, PERRY & ASSO	WATER FUND	WATER		280.00
	PRJCT# 19907, PERRY & ASSO	SEWER FUND	SEWER		280.00
				TOTAL:	560.00

FUND TOTALS	
50 WATER FUND	76,546.59
60 SEWER FUND	140,296.29
GRAND TOTAL:	216,842.88

TOTAL PAGES: 5

VENDOR SORT KEY	DESCRIPTION	FUND	DEPARTMENT		AMOUNT
	401-000911	WATER FUND	NON-DEPARTMENTAL		50.28
	402-000605	WATER FUND	NON-DEPARTMENTAL		66.49
	403-001776	WATER FUND	NON-DEPARTMENTAL		45.50
	504-000083	WATER FUND	NON-DEPARTMENTAL		64.00
	504-500058	WATER FUND	NON-DEPARTMENTAL		82.76
	504-500062	WATER FUND	NON-DEPARTMENTAL		22.87
	504-900018	WATER FUND	NON-DEPARTMENTAL		80.84
	504-900020	WATER FUND	NON-DEPARTMENTAL		84.67
	504-900022	WATER FUND	NON-DEPARTMENTAL		86.57
	504-900025	WATER FUND	NON-DEPARTMENTAL		50.34
	504-900026	WATER FUND	NON-DEPARTMENTAL		89.45
	504-900027	WATER FUND	NON-DEPARTMENTAL		54.12
	504-900030	WATER FUND	NON-DEPARTMENTAL		90.40
	504-900031	WATER FUND	NON-DEPARTMENTAL		50.31
	504-900033	WATER FUND	NON-DEPARTMENTAL		90.42
	504-900034	WATER FUND	NON-DEPARTMENTAL		83.72
				TOTAL:	2,338.46
PACE ANALYTICAL SERVICES, LLC	TESTING: DEERFIELD	SEWER FUND	SEWER		373.40
	TESTING: CT WKLY	SEWER FUND	SEWER		257.90
	TESTING: TUSC WKLY	SEWER FUND	SEWER		127.50
	TESTING: CT WKLY	SEWER FUND	SEWER		306.60
	TESTING: TUSC WKLY	SEWER FUND	SEWER		120.10
				TOTAL:	1,185.50
PETTY CASH @ 661 S GEORGE ST	PETTY CASH- MISC RECEIPTS	WATER FUND	WATER		63.99
	PETTY CASH- MISC RECEIPTS	WATER FUND	WATER		0.72
	PETTY CASH- MISC RECEIPTS	SEWER FUND	SEWER		34.75
				TOTAL:	99.46
COREY RAMEY	TOWING SEWER TRUCK	SEWER FUND	SEWER		118.75
				TOTAL:	118.75
ROSS H BARE	TWWTP SVC CLL	SEWER FUND	SEWER		707.10
	CTWWTP SVC CLL	SEWER FUND	SEWER		2,403.79
	JHS PS SVC CLL	SEWER FUND	SEWER		814.95
	SVC CALL FOR BLOWERS	SEWER FUND	SEWER		2,640.00
				TOTAL:	6,565.84
SG PLUMBING, INC.	189 WILLOW BROOK DR: 3/26/	WATER FUND	WATER		1,225.00
				TOTAL:	1,225.00
SHENANDOAH SALES & SERVICE, INC.	BRAKE LINE JETTER TRUCK	SEWER FUND	SEWER		458.80
				TOTAL:	458.80
GERALD TAYLOR CO., INC.	PUMP / TRANSPORT	WATER FUND	WATER		766.29
	PUMP / TRANSPORT	WATER FUND	WATER		995.00
	TRANSPORT	SEWER FUND	SEWER		1,049.40
	TRANSPORT	SEWER FUND	SEWER		1,049.40
	SUPERVAC	SEWER FUND	SEWER		2,698.59
	SUPERVAC	SEWER FUND	SEWER		2,696.31
				TOTAL:	9,254.99
THE CI THORNBURG CO, INC.	1-1/2" OMNI METER	WATER FUND	WATER		985.00
				TOTAL:	985.00

VENDOR SORT KEY	DESCRIPTION	FUND	DEPARTMENT		AMOUNT
				TOTAL:	950.82
IRON MOUNTAIN, INC	SHREDDING, STORAGE	WATER FUND	WATER		611.20
	SHREDDING, STORAGE	SEWER FUND	SEWER		611.20
				TOTAL:	1,222.40
JAMES RIVER EQUIPMENT	RPLC HOSES ON ATLAS	WATER FUND	WATER		2,466.80
	BACKHOE REPAIR	WATER FUND	WATER		5,684.87
	50 EXCAVATOR REPAIR	SEWER FUND	SEWER		3,044.83
	60 EXCAVATOR SERVICE	SEWER FUND	SEWER		1,995.60
				TOTAL:	13,192.10
JEFFERSON PUBLISHING COMPANY	3/27 AD: VEHICLE FOR SALE	SEWER FUND	SEWER		26.82
				TOTAL:	26.82
JNO S SOLENBERGER & CO., INC	CHK VLV, CPLG, BSHG	SEWER FUND	SEWER		16.01
	CHK VLV, CPLG, BSHG	SEWER FUND	SEWER		168.01
				TOTAL:	184.02
MCKINNEY'S AUTO REPAIR	SERVICE WATER VEHICLE	WATER FUND	WATER		140.03
	SERVICE SEWER VEHICLE	SEWER FUND	SEWER		130.05
	SERVICE & TIRE SEWER TRUCK	SEWER FUND	SEWER		365.97
	REPAIR SEWER VEHICLE	SEWER FUND	SEWER		822.10
	OIL CHNG & SVC SEWER TRUCK	SEWER FUND	SEWER		121.03
				TOTAL:	1,579.18
METLIFE, INC	AD&D PAYABLE	WATER FUND	WATER		8.54
	LIFE PAYABLE	WATER FUND	WATER		45.46
	LTD PAYABLE	WATER FUND	WATER		287.93
	STD PAYABLE	WATER FUND	WATER		357.13
	AD&D PAYABLE	SEWER FUND	SEWER		10.06
	LIFE PAYABLE	SEWER FUND	SEWER		53.54
	LTD PAYABLE	SEWER FUND	SEWER		302.44
	STD PAYABLE	SEWER FUND	SEWER		378.15
				TOTAL:	1,443.25
SECURITY DEPOSIT REFUNDS	101-001830	WATER FUND	NON-DEPARTMENTAL		48.10
	102-000030	WATER FUND	NON-DEPARTMENTAL		63.64
	102-000240	WATER FUND	NON-DEPARTMENTAL		66.59
	103-000465	WATER FUND	NON-DEPARTMENTAL		51.83
	103-000645	WATER FUND	NON-DEPARTMENTAL		1.53
	104-002015	WATER FUND	NON-DEPARTMENTAL		92.38
	106-000020	WATER FUND	NON-DEPARTMENTAL		87.31
	106-000560	WATER FUND	NON-DEPARTMENTAL		69.34
	106-000970	WATER FUND	NON-DEPARTMENTAL		66.60
	106-001030	WATER FUND	NON-DEPARTMENTAL		83.82
	108-000023	WATER FUND	NON-DEPARTMENTAL		48.57
	108-000247	WATER FUND	NON-DEPARTMENTAL		76.37
	108-000259	WATER FUND	NON-DEPARTMENTAL		95.07
	201-001290	WATER FUND	NON-DEPARTMENTAL		46.83
	202-001815	WATER FUND	NON-DEPARTMENTAL		19.20
	203-000810	WATER FUND	NON-DEPARTMENTAL		28.49
	401-000008	WATER FUND	NON-DEPARTMENTAL		90.80
	401-000209	WATER FUND	NON-DEPARTMENTAL		26.34
	401-000360	WATER FUND	NON-DEPARTMENTAL		92.33
	401-000877	WATER FUND	NON-DEPARTMENTAL		90.58

VENDOR SORT KEY	DESCRIPTION	FUND	DEPARTMENT		AMOUNT
	CB-4 .63UN RM SWR SDL	SEWER FUND	SEWER		295.32
	BRS SAD	SEWER FUND	SEWER		154.30
				TOTAL:	11,632.89
CORNET INC	HYDRANT REPAIR @ WTP	WATER FUND	WATER		1,830.34
				TOTAL:	1,830.34
COYNE CHEMICAL	CONTAINER RETURN	WATER FUND	WATER		20.00-
	AMMONIUM SULFATE 40% NSF	WATER FUND	WATER		1,586.00
	CES PACL 2000	SEWER FUND	SEWER		23,464.72
				TOTAL:	25,030.72
D.R. HORTON, INC.	SEWER UPSIZING PER AMEA	SEWER FUND	NON-DEPARTMENTAL		10,000.00
				TOTAL:	10,000.00
DELL MARKETING L.P.	DELL 24 MONITOR	WATER FUND	WATER		280.79
	DELL 24 MONITOR	SEWER FUND	SEWER		280.79
				TOTAL:	561.58
WV DEPT OF HEALTH & HUMAN SERVICES	BACTERIOLOGICAL TEST	WATER FUND	WATER		160.00
	BACTERIOLOGICAL TEST	WATER FUND	WATER		140.00
				TOTAL:	300.00
ENCOVA INSURANCE	INSTALLMENT	WATER FUND	WATER		1,439.88
	INSTALLMENT	SEWER FUND	SEWER		1,329.12
				TOTAL:	2,769.00
ERM & ASSOCIATES LLC	ESMNT ACQSTN 2023CLLCTNSYS	SEWER FUND	NON-DEPARTMENTAL		4,383.26
				TOTAL:	4,383.26
FERGUSON US HOLDINGS, INC	1-1/2 BV 546 PVC/EPDM SK/T	SEWER FUND	SEWER		277.34
				TOTAL:	277.34
GUTTMAN ENERGY	W/E 3/24/24	WATER FUND	WATER		573.96
	W/E 3/31/24	WATER FUND	WATER		450.87
	W/E 3/24/24	SEWER FUND	SEWER		1,328.20
	W/E 3/31/24	SEWER FUND	SEWER		1,337.95
	W/E 3/31/24	SEWER FUND	SEWER		60.48
				TOTAL:	3,751.46
GWIN DOBSON & FOREMAN INC	KNGS XNG WTP SLDGFRCMN TIE	WATER FUND	NON-DEPARTMENTAL		13,149.23
	GRNFLD FRCMN UPGRD	SEWER FUND	NON-DEPARTMENTAL		4,437.89
	WWTP UPGRADES	SEWER FUND	NON-DEPARTMENTAL		12,607.15
	WWTP UPGRADES	SEWER FUND	NON-DEPARTMENTAL		2,329.80
	CNTR HLLW PS	SEWER FUND	NON-DEPARTMENTAL		2,287.30
	EPA ADMIN ORDER	SEWER FUND	SEWER		561.60
	WW RETAINER SVCS	SEWER FUND	SEWER		1,840.80
				TOTAL:	37,213.77
PROTOUCH COMMUNICATIONS, LLC	MAR SVCS: AFTER-HRS EMERGE	WATER FUND	WATER		150.94
	MAR SVCS: AFTER-HRS EMERGE	SEWER FUND	SEWER		150.94
				TOTAL:	301.88
INWOOD QUARRY, INC.	I8 & C1 & I10 PICKUPS: 3/2	WATER FUND	WATER		322.07
	I8 & C1 & I10 PICKUPS: 3/2	WATER FUND	WATER		322.08
	I8 & C1 & I10 PICKUPS: 3/2	SEWER FUND	SEWER		306.67

VENDOR SORT KEY	DESCRIPTION	FUND	DEPARTMENT		AMOUNT
3RD TIME TRUCKING	HAULING	WATER FUND	WATER		283.43
	HAULING	WATER FUND	WATER		283.43
	HAULING	WATER FUND	WATER		148.82
	HAULING	WATER FUND	WATER		148.82
	HAULING	SEWER FUND	SEWER		133.70
	HAULING	SEWER FUND	SEWER		129.71
				TOTAL:	1,127.91
ALS GROUP USA CORP	TESTING	WATER FUND	WATER		193.00
	TESTING	WATER FUND	WATER		201.80
				TOTAL:	394.80
AMERIGAS PROPANE LP	TANK RENTAL: SPRUCE HILL	SEWER FUND	SEWER		164.65
				TOTAL:	164.65
APPLE VALLEY TIRE	MOWING TRAILER TIRES	SEWER FUND	SEWER		199.76
				TOTAL:	199.76
ARDEN EQUIPMENT REPAIR, INC.	MOWERS- MISC	SEWER FUND	SEWER		138.73
				TOTAL:	138.73
JP & RF BURNS PARTNERSHIP	MAR LOADS - 43	SEWER FUND	SEWER		7,697.00
				TOTAL:	7,697.00
CARAHSOFT TECHNOLOGY CORPORATION	WATERCAD STANDALONE PIPES	WATER FUND	WATER		5,017.00
				TOTAL:	5,017.00
CITY NATIONAL BANK	LOCKBOX SVCS: MAR	WATER FUND	WATER		115.40
	LOCKBOX SVCS: MAR	SEWER FUND	SEWER		115.40
				TOTAL:	230.80
CITY OF CHARLES TOWN	ANNUAL LOAN PAYMENT	WATER FUND	NON-DEPARTMENTAL		10,180.00
	APR RENT @ 661 S GEORGE ST	WATER FUND	WATER		1,275.00
	FEB UTILITIES@ 661 S GEORG	WATER FUND	WATER		653.42
	JAN UTILITIES@ 661 S GEORG	WATER FUND	WATER		664.34
	ANNUAL LOAN PAYMENT	SEWER FUND	NON-DEPARTMENTAL		2,636.00
	APR RENT @ 661 S GEORGE ST	SEWER FUND	SEWER		1,275.00
	FEB UTILITIES@ 661 S GEORG	SEWER FUND	SEWER		653.42
	JAN UTILITIES@ 661 S GEORG	SEWER FUND	SEWER		664.34
				TOTAL:	18,001.52
CORE & MAIN	#2 ECLIPSE POST HYD	WATER FUND	WATER		1,973.50
	REDUCER, BUSHING, NIPPLE	WATER FUND	WATER		241.37
	REDUCER, BUSHING, NIPPLE	WATER FUND	WATER		241.37
	FRAME&COVER, METER PIT BUL	WATER FUND	WATER		3,673.68
	BRS SAD	WATER FUND	WATER		36.37
	VBHC72-9W-44-3NL	WATER FUND	WATER		1,950.12
	BALLCORP	WATER FUND	WATER		127.70
	BALLCORP	WATER FUND	WATER		127.69
	BRASS REDUCER	WATER FUND	WATER		155.80
	BRASS NIPPLE	WATER FUND	WATER		14.31
	BRASS NIPPLE	WATER FUND	WATER		14.31
	BRASS NIPPLE	WATER FUND	WATER		96.33
	BRASS NIPPLE	WATER FUND	WATER		96.33
	SS BAND, BALL CORP STOP, C	WATER FUND	WATER		1,217.20
	SS BAND, BALL CORP STOP, C	WATER FUND	WATER		1,217.19