CHARLES TOWN UTILITY BOARD
AGENDA

THURSDAY, OCTOBER 26, 2023

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

CALL TO ORDER

1. **APPROVAL OF MINUTES**
   a. Approval of October 11, 2023 Regular Meeting Minutes
   UB Minutes 10.11.23.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 Meetings - Meeting Agendas and Minutes 2023) or by accessing the following zoom link:

   https://us06web.zoom.us/j/88041547448?pwd=fxTH2lZSQosQObtisSSt8aneH9mrro.1

   Meeting ID: 880 4154 7448
   Passcode: 509664
   +1 301 715 8592 US

3. **UNFINISHED BUSINESS**
   a. Class Cost of Service Study Update
   Water Option A1 Analysis (RT @ 25).pdf
   b. License Agreement Termination
   Termination of License Agreement 10.12.23.pdf
   c. CTUB Water Plant Transportation Agreement with King's Crossing
   Kings Crossing Connection Agreement.pdf

4. **NEW BUSINESS**
   a. Sawgrass Verizon 2nd Lease Amendment
   WV-003 Sawgrass Verizon 2nd Lease Amd 10.03.23.pdf
   b. CTUB Water Plant Forcemain to King's Crossing
   CTUB Force Main at Kings Crossing -- Proposal.pdf

5. **MANAGER REPORTS**

a. Utility Manager Report
   October 2023 Engineers Report.pdf
b. Chairman Report

6. **APPROVAL OF BILLS**
   a. October 26, 2023
      Board Report 10.26.23.pdf

7. **ADJOURNMENT**

8. **INFORMATION ONLY**
   a. Water System Results
      THM-HAA5 Average.pdf
   b. Next Meeting - November 15, 2023 at 4:00 P.M.

Charles Town Utility Board
Regular Board Meeting
October 11, 2023

The Charles Town Utility Board held a regular meeting on October 11, 2023 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 Richard Lewis, Legal Counsel.

CALL TO ORDER

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

APPROVAL OF MINUTES

Approval of September 23, 2023 Regular Meeting Minutes

The Chairman called for changes or corrections to the September 23, 2023 regular meeting minutes.

Action: **Motion made by Mr. Whitten, second by Mrs. Parker, the Board unanimously approved the minutes as presented.**

PUBLIC COMMENT

The Board received a public comment from Elizabeth Ricketts.

UNFINISHED BUSINESS

Dupont and 3M Class Action Settlement Correspondence - 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.

Action: **This item was moved to the end of the meeting.**

NEW BUSINESS

Renewal & Replacement Project Resolution No. 12 – Contractor Pay Application No. 12

Mrs. Stolipher included the contractor application for payment no. 12 in the amount of $895,538.96 for work completed.

Action: **Motion made by Mr. Stocks, second by Mr. Pierson, the Board unanimously approved the Contractor Pay Application No. 12.**

Tuscawilla Treatment Plant Blow-Off Piping Quote

Mrs. Stolipher provided a quote for blow-off piping due to operation and maintenance issues at the Tuscawilla wastewater plant as a result of the piping installed during the membrane filters. The quote from Alvarez Contractors is not to exceed $20,812.99.

Action: **Motion made by Mr. Pierson, second by Mr. Stocks, the Board unanimously approved the quote from Alvarez Contractors.**

RK&K Task No. 19 – Scope of Work Change Order No. 04

Mrs. Stolipher mentioned this task order is for the Collection System project and the change order

relates to redesign efforts and easement coordination efforts. John Cole, from RK&K, provided a brief update on the changes totaling $19,000.00. The Board provided discussions.

Action: **Motion made by Mr. Pierson, second by Mr. Whitten, the Board unanimously approved the RK&K scope of work change order No. 04.**

MANAGER REPORTS

Utility Manager Report

Mrs. Stolipher addressed the public comment made earlier in the meeting. She stated the yearly chloramine conversion was advertised in the Spirit on September 20th and 27th as well as the website and mentioned at the last Board meeting. Mrs. Shultz provided the Board with a brief update on the new software system. The Board discussed options for providing customer updates.

Mrs. Stolipher also provided a clarification to a public comment made at the October 2nd City Council meeting regarding lead and copper testing. She stated that staff followed up with the claim of a lead service line and found no lead at this location. The Board provided discussions. Mrs. Stolipher also mentioned the pre-bid meeting for the Greenfield force main will be held on October 12th with the bid opening on October 26th. She also briefed the Board on the rate presentation she gave at the October 2nd City Council meeting and will have a follow-up at the October 16th meeting.

Mrs. Stolipher mentioned she will have a tour of the upgrades at the Charles Town wastewater plant on October 12th at 4:00 P.M. for anyone who wants to attend. And lastly, she mentioned CTUB participated in purchasing ariel photography with the County.

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

Chairman Report

The Chairman provided he invited Mrs. Stolipher to the November 6th City Council meeting to provide an update on the various CTUB projects. He also mentioned he has been working with Mrs. Stolipher on holding a "CTUB" day on January 26th for all elected officials in Ranson, Charles Town, the County Commission and CTUB Board members.

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

Mrs. Parker requested the most recent water report on the CTUB website and asked about an asset management plan.

APPROVAL OF BILLS

October 11, 2023

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

EXECUTIVE SESSION

Dupont and 3M Class Action Settlement Correspondence - 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.

Action: **Motion by Mr. Pierson, second by Mr. Whitten, the Board unanimously approved convening into Executive Session at 4:45 P.M. to discuss the Dupont and 3M Class Action Settlement Correspondence.**

Executive session was declared over at 4:58 P.M.

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 4:59 P.M.**

INFORMATION ONLY

The next meeting is a Special Meeting scheduled for Thursday, October 26, 2023 at 4:00 P.M. at 661 S. George Street.

_____	_____
John Nissel	Ashley Stottlemyer
Chairman	Secretary

WATER OPERATIONS

OPTION A1 - RATE EQUALIZATION WITH 2,000 GALLON MONTHLY MINIMUM - ANALYSIS FOR COUNCIL

COMPARISON OF COST OF SERVICE WITH REVENUES UNDER PRESENT AND PROPOSED RATES

FOR THE TEST YEAR ENDED JUNE 30,2024

Customer Classification	Cost of Service Amount (Schedule B)	Cost of Service Percent	Revenues, Present Rates Amount	Revenues, Present Rates Percent	Revenues, Proposed Rates Amount	Revenues, Proposed Rates Percent	Proposed Increase Amount	Proposed Increase Percent Increase
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Residential	$ 3,078,519	67.0%	$ 2,663,438	67.4%	$ 3,087,022	67.2%	$ 423,584	15.9%
Commercial	$ 1,280,466	27.9%	1,131,033	28.6%	1,305,073	28.4%	174,041	15.4%
Race Track	$ 232,569	5.1%	159,423	4.0%	199,442	4.3%	40,019	25.1%
Total Sales	4,591,554	100.0%	3,953,893	100.0%	4,591,537	100.0%	637,644	16.1%
Other Revenues	143,000		143,000		143,000		-	0.0%
Total	$ 4,734,554		$ 4,096,893		$ 4,734,537		$ 637,644	15.6%

CHARLES TOWN UTILITY BOARD
OPTION A1 - RATE EQUALIZATION PROPOSED 2,000 GALLON MINIMUM
COMPARISON OF PRESENT AND PROPOSED RATES

	2022/2023 Rates	2023/2024 Rates	Proposed Minimum By Meter Size (gallons)
Charles Town and Race Track			
Minimum Charges - 2,500 gals. ==> 2,000 gals.			
5/8-inch and 5/8 x 3/4-inch	$ 25.83	$ 25.68	2,000
3/4-inch	38.74	38.52	3,000
1-inch	64.57	64.20	5,000
1 1/2-inch	129.14	132.89	10,350
2-inch	206.62	207.80	17,400
3-inch	387.42	389.68	34,350
4-inch	645.70	717.98	64,130
6-inch	1,291.40	1,348.40	138,560
Consumption Charges (per 1000 gallons)			
First 10,000 gallons	$ 10.330	12.840	
Next 30,000 gallons	8.790	10.730	
Over 40,000 gallons	6.940	8.470	
PNGI Contract Rate (All Consumption)	$ 4.860	$ 6.080	
Jefferson County			
Minimum Charges - 2,500 gals. ==> 2,000 gals.	$ 47.10	$ -	
5/8-inch and 5/8 x 3/4-inch		25.68	2,000
3/4-inch		38.52	3,000
1-inch		64.20	5,000
1 1/2-inch		132.89	10,350
2-inch		207.80	17,400
3-inch		389.68	34,350
4-inch		717.98	64,130
6-inch		1,348.40	138,560
Consumption Charges (per 1000 gallons)			
First 5,000 gallons	$ 18.840	$ -	
Over 5,000 gallons	17.640	-	
First 10,000 gallons		$ 12.840	
Next 30,000 gallons		10.730	
Over 40,000 gallons		8.470	
Bulk Water Rate		8.470	

Average Bills Charles Town and Ranson:	Average Bill, Present Rates	Average Bill, Proposed Rates	Dollar Increase/(Decrease)	Percentage Increase/(Decrease)
Residential at 3,300 gallons	$ 34.09	$ 42.37	$ 8.28	24.30%
Non-Residential at 5,600 gallons	57.85	71.90	14.06	24.30%
Race Course at 2,700,000 Monthly	13,122.00	16,416.00	3,294.00	25.10%
Jefferson County:				
Residential at 3,300 gallons	$ 62.17	$ 42.37	$ (19.80)	-31.85%
Non-Residential at 5,600 gallons	104.78	71.90	(32.88)	-31.38%

CHARLES TOWN UTILITY BOARD
OPTION A1 - 2,000 GALLON MINIMUM
COMPARISON OF BILLS UNDER PRESENT AND PROPOSED RATES
CITY AND RANSON - MONTHLY
FOR A RESIDENTIAL 5/8-INCH METER

CONSUMPTION GALLONS	BILLS UNDER 2021/2022 RATES	BILLS UNDER 2023/2024 RATES	INCREASE AMOUNT	INCREASE PERCENT	PERCENT OF BILLS**
(1)	(2)	(3)	(4)	(5)	(6)
0	$ 25.83	$ 25.68	$ (0.15)	-0.56%	1.41%
1,000	25.83	25.68	(0.15)	-0.56%	13.83%
2,000	25.83	25.68	(0.15)	-0.56%	34.23%
2,700 *	27.89	34.67	6.78	24.30%	49.58%
3,000	30.99	38.52	7.53	24.30%	55.57%
3,300 **	34.09	42.37	8.28	24.30%	66.71%
4,000	41.32	51.36	10.04	24.30%	72.77%
5,000	51.65	64.20	12.55	24.30%	83.65%
6,000	61.98	77.04	15.06	24.30%	90.24%
7,000	72.31	89.88	17.57	24.30%	93.98%
8,000	82.64	102.72	20.08	24.30%	96.21%
9,000	92.97	115.56	22.59	24.30%	97.49%
10,000	103.30	128.40	25.10	24.30%	98.24%
11,000	112.09	140.19	28.10	25.06%	98.75%
12,000	120.88	150.92	30.04	24.85%	99.06%
13,000	129.67	161.65	31.98	24.66%	99.29%
14,000	138.46	172.38	33.92	24.49%	99.43%
15,000	147.25	183.11	35.86	24.35%	99.54%
20,000	191.20	236.76	45.56	23.83%	99.78%
30,000	279.10	344.06	64.96	23.27%	99.89%
40,000	367.00	452.49	85.49	23.29%	99.94%
50,000	436.40	537.19	100.79	23.09%	99.97%
60,000	505.80	621.89	116.09	22.95%	99.99%

*Median Residential Usage
**Average Residential Usage
***Reflects cumulative percentage of actual Residential bills by usage level.

CHARLES TOWN UTILITY BOARD
OPTION A1 - 2,000 GALLON MINIMUM
COMPARISON OF BILLS UNDER PRESENT AND PROPOSED RATES
CITY AND RANSON - MONTHLY
FOR A COMMERCIAL 5/8-INCH METER

CONSUMPTION GALLONS	BILLS UNDER 2021/2022 RATES	BILLS UNDER 2023/2024 RATES	INCREASE AMOUNT	INCREASE PERCENT	PERCENT OF BILLS***
(1)	(2)	(3)	(4)	(5)	(6)
0	$ 25.83	$ 25.68	$ (0.15)	-0.56%	3.60%
1,000	25.83	25.68	(0.15)	-0.56%	21.33%
1,909 *	25.83	25.68	(0.15)	-0.56%	50.20%
2,000	25.83	25.68	(0.15)	-0.56%	53.75%
3,000	30.99	38.52	7.53	24.30%	78.96%
4,000	41.32	51.36	10.04	24.30%	86.17%
5,000	51.65	64.20	12.55	24.30%	95.09%
5,600 **	57.85	71.90	14.06	24.30%	96.11%
6,000	61.98	77.04	15.06	24.30%	96.51%
7,000	72.31	89.88	17.57	24.30%	97.52%
8,000	82.64	102.72	20.08	24.30%	98.00%
9,000	92.97	115.56	22.59	24.30%	98.44%
10,000	103.30	128.40	25.10	24.30%	98.69%
11,000	112.09	141.24	29.15	26.01%	98.91%
12,000	120.88	151.97	31.09	25.72%	99.06%
13,000	129.67	162.70	33.03	25.47%	99.18%
14,000	138.46	173.43	34.97	25.26%	99.30%
15,000	147.25	184.16	36.91	25.07%	99.47%
20,000	191.20	237.81	46.61	24.38%	99.72%
30,000	279.10	345.11	66.01	23.65%	99.86%
40,000	367.00	454.67	87.67	23.89%	99.91%
50,000	436.40	539.37	102.97	23.60%	99.95%
60,000	505.80	624.07	118.27	23.38%	99.96%
70,000	575.20	708.77	133.57	23.22%	99.98%
100,000	783.40	962.87	179.47	22.91%	99.99%
200,000	1,477.40	1,809.87	332.47	22.50%	100.00%

*Median Commercial Usage
**Average Commercial Usage
***Reflects cumulative percentage of actual Commercial bills by usage level.

CHARLES TOWN UTILITY BOARD
OPTION A1 - 2,000 GALLON MINIMUM
COMPARISON OF BILLS UNDER PRESENT AND PROPOSED RATES
COUNTY - MONTHLY
FOR ALL METER SIZES

CONSUMPTION GALLONS	BILLS UNDER 2021/2022 RATES	BILLS UNDER 2023/2024 RATES	INCREASE AMOUNT	INCREASE PERCENT	PERCENT OF BILLS**
(1)	(2)	(3)	(4)	(5)	(6)
0	$ 47.10	$ 25.68	$ (21.42)	-45.48%	1.60%
1,000	47.10	25.68	(21.42)	-45.48%	15.56%
2,000	47.10	25.68	(21.42)	-45.48%	35.93%
3,000	56.52	38.52	(18.00)	-31.85%	59.64%
3,600 *	67.82	46.22	(21.60)	-31.85%	71.49%
4,000	75.36	51.36	(24.00)	-31.85%	76.22%
5,000	94.20	64.20	(30.00)	-31.85%	85.02%
6,000	111.84	77.04	(34.80)	-31.12%	88.87%
7,000	129.48	89.88	(39.60)	-30.58%	93.24%
8,000	147.12	102.72	(44.40)	-30.18%	95.78%
9,000	164.76	115.56	(49.20)	-29.86%	96.95%
10,000	182.40	128.40	(54.00)	-29.61%	97.96%
11,000	200.04	141.24	(58.80)	-29.39%	98.76%
12,000	217.68	151.97	(65.71)	-30.19%	99.05%
13,000	235.32	162.70	(72.62)	-30.86%	99.35%
14,000	252.96	173.43	(79.53)	-31.44%	99.49%
15,000	270.60	184.16	(86.44)	-31.94%	99.64%
20,000	358.80	237.81	(120.99)	-33.72%	99.93%
30,000	535.20	345.11	(190.09)	-35.52%	99.99%
40,000	711.60	454.67	(256.93)	-36.11%	99.99%
50,000	888.00	539.37	(348.63)	-39.26%	99.99%
60,000	1,064.40	624.07	(440.33)	-41.37%	99.99%

*Average Residential Usage
**Reflects cumulative percentage of actual Residential bills by usage level.

CHARLES TOWN UTILITY BOARD
OPTION A1 - 2,000 GALLON MINIMUM
COMPARISON OF ACTUAL BILLS UNDER PRESENT AND PROPOSED RATES
FOR RACE TRACK - MONTHLY

CONSUMPTION GALLONS	BILLS UNDER 2021/2022 RATES	BILLS UNDER 2023/2024 RATES	PROPOSED INCREASE AT 25% AMOUNT	PROPOSED INCREASE AT 25% PERCENT
(1)	(2)	(3)	(4)	(5)
3,301,800	$ 16,046.75	$ 20,074.94	$ 4,028.20	25.00%
3,849,700	18,709.54	23,406.18	4,696.63	25.00%
4,309,400	20,943.68	26,201.15	5,257.47	25.00%
3,316,500	16,118.19	20,164.32	4,046.13	25.00%
2,988,600	14,524.60	18,170.69	3,646.09	25.00%
2,568,800	12,484.37	15,618.30	3,133.94	25.00%
2,055,300	9,988.76	12,496.22	2,507.47	25.00%
2,109,800	10,253.63	12,827.58	2,573.96	25.00%
2,070,100	10,060.69	12,586.21	2,525.52	25.00%
1,562,100	7,591.81	9,497.57	1,905.76	25.00%
2,785,600	13,538.02	16,936.45	3,398.43	25.00%
1,885,300	9,162.56	11,462.62	2,300.07	25.00%
Total	**$ 159,422.58**	**$ 199,442.24**	**$ 40,019.66**	

CHARLES TOWN UTILITY BOARD
COMPARISON OF MONTHLY BILLS UNDER PRESENT RATES AND PROPOSED RATES OF OPTION A1 FOR THE AVERAGE AND MEDIAN RESIDENTIAL CUSTOMER AND THE TOP TEN COMMERCIAL CUSTOMERS

						Option A1 - 2,000 Gallon Minimum, Race Track 25% Increase			
Rank	Account/Customer	Avg. Monthly Usage (Gals.)	Meter Size	Present Minimum	Present Bill	Minimum	Proposed Bill	Dollar Increase	Percent Increase
Residential Customers									
1	Median Residential Usage	2,700	5/8"	2,500	$ 27.89	2,000	34.67	6.78	24.30%
2	Average Residential Usage	3,300	5/8"	2,500	34.09	2,000	42.37	8.28	24.30%
Top 10 Commercial Customers									
1	Race Track	2,700,000	N/A	N/A	$ 13,122.00	N/A	$ 16,416.00	$ 3,294.00	25.10%
2	103-001035-00	800,000	1.5"	12,940	5,553.50	10,350	6,888.23	1,334.73	24.03%
3	205-000120-00	400,000	5/8"	2,500	2,865.40	2,000	3,499.50	634.10	22.13%
4	103-001085-02	310,000	2"	21,754	2,152.90	17,400	2,737.20	584.30	27.14%
5	105-001497-00	300,000	3"	42,942	2,171.40	34,350	2,639.74	468.34	21.57%
6	202-001445-00	260,000	3"	42,942	1,893.80	34,350	2,300.94	407.14	21.50%
7	202-001040-00	230,000	4"	80,159	1,685.60	64,130	2,122.90	437.30	25.94%
8	302-000500-03	210,000	2"	21,754	1,458.90	17,400	1,890.20	431.30	29.56%
9	105-001496-01	180,000	3"	42,942	1,338.60	34,350	1,623.34	284.74	21.27%
10	104-001451-00	170,000	5/8"	2,500	1,269.20	2,000	1,551.40	282.20	22.23%

TERMINATION OF LICENSE AGREEMENT

This TERMINATION OF LICENSE AGREEMENT (this "Termination") is made as of the ____ day of _____, 2023, between CITY OF CHARLES TOWN, a municipal corporation acting by and through the CHARLES TOWN UTILITY BOARD, having its principal office at 661 South George Street, Suite 101, Charles Town, WV 25414 ("CTUB"), and HORUS WEST VIRGINIA 1, LLC, a Delaware limited liability company having its principal office at 615 Crescent Executive Court, Suite 310, Lake Mary, FL 32746, its employees, contractors, consultants and subcontractors ("Licensee").

WITNESSETH:

WHEREAS, the parties entered into that certain License Agreement ("License Agreement") which was memorialized by a Memorandum of License Agreement dated March 1, 2023 and recorded in the Jefferson County, West Virginia land records; and

WHEREAS, CTUB and Licensee have agreed to terminate said License Agreement.

NOW, THEREFORE, in consideration of the mutual agreements herein contained and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties do hereby terminate the License Agreement of record as identified in that certain Memorandum of License Agreement dated March 1, 2023 and recorded in Jefferson County, West Virginia land records as Instrument 202300004612, in Deed Book 1300 at Page 631, along with any and all rights contained therein identified in the Memorandum of License Agreement.

DRAFT

IN WITNESS WHEREOF, the parties have duly executed this Termination of License Agreement as of the date first above written.

CTUB:

The City of Charles Town, by and through the Charles Town Utility Board

By: _____

Its: _____

STATE/COMMONWEALTH OF _____,
CITY/COUNTY OF _____, to-wit:

The foregoing instrument was acknowledged before me this ___ day of _____, 2023 by _____, _____ of The City of Charles Town, by and through the Charles Town Utility Board.

_____
Notary Public

My commission expires: _____.

Registration Number: _____.

DRAFT

LICENSEE:

Horus West Virginia 1, LLC

By: _____

Its: _____

STATE/COMMONWEALTH OF _____,
CITY/COUNTY OF _____, to-wit:

The foregoing instrument was acknowledged before me this ___ day of _____, 2023 by _____, _____ of HORUS WEST VIRGINIA 1, LLC.

_____
Notary Public

My commission expires: _____.

Registration Number: _____.

DRAFT

TRANSPORTATION AGREEMENT

This Agreement is made this ____ day of October 2023, by and between DRB Group, a West Virginia Corporation, hereinafter referred to as DRB; and the CHARLES TOWN UTILITY BOARD, an agency of the City of Charles Town, West Virginia, a West Virginia municipal corporation, which operates the combined waterwork and sewerage systems of the City of Charles Town, hereinafter referred to as CTUB.

WHEREAS, DRB is developing a subdivision known as King's Crossing Subdivision located directly across Route 115 (Old Charles Town Road) from the CTUB Water Treatment Facility at 15527 Charles Town Road; and

WHEREAS, DRB is in the process of constructing Water and Sewerage Facilities that, upon completion, will be turned over to CTUB for future operation and maintenance; and

WHEREAS, the DRB wastewater infrastructure will be located in close proximity to CTUB's Water Treatment Plant and associated infrastructure; and

WHEREAS, CTUB has evaluated various options to address removal and disposal of thickened sludge, recycled flows and domestic waste from its Water Treatment Facility and CTUB currently transports such thickened sludge and recycled flows by contracting with a commercial hauling company on a daily basis at great expense to CTUB's water operations; and

WHEREAS, CTUB has determined that the wastewater facilities being constructed by DRB in close proximity to the CTUB Water Plant, presents the most economical and practical solution to the conveyance of the waste and domestic flows from the CTUB Water Plant to ultimate treatment by CTUB.

NOW THEREFORE, the parties have agreed, to the following mutual terms and conditions as follows:

1. Upon receipt of consideration acceptable to DRB, DRB agrees that, upon completion of its wastewater facilities sufficient to transport CTUB's waste stream described herein until the transfer of such facilities to CTUB, it will accept the thickened sludge, recycled and domestic flows from the CTUB Water Plant only, into the DRB development wastewater infrastructure for the purpose of conveying the CTUB Water plant flows to CTUB's Wastewater Facility at _____; and

2. CTUB will be responsible for the construction of a 4" forcemain from the CTUB Water Plant to a DRB Sewer manhole to be designated by DRB in agreement with CTUB; and.

DRAFT

3. CTUB agrees that the 4" forcemain connection from the CTUB Water Plant to the DRB manhole will be dedicated to CTUB's use only.

This Agreement is binding upon the parties and their assigns.

WITNESS the following signatures and seals:

DRB Group

BY: _____

CHARLES TOWN UTILITY BOARD

BY: _____

CHAIRMAN

DRAFT

SECOND AMENDMENT TO LEASE AGREEMENT

Site Name/Location: **The City of Charles Town – WV-003 Sawgrass Drive**
Sawgrass Drive, Charles Town, Jefferson County, West Virginia

This Second Amendment to Lease Agreement (the "Second Amendment"), dated as of _____, is made and entered into by and between CELLCO PARTNERSHIP d/b/a Verizon Wireless ("Tenant"), a Delaware general partnership, with its principal offices at One Verizon Way, Mail Stop 4AW100, Basking Ridge, New Jersey 07920; and the CITY OF CHARLES TOWN, WEST VIRGINA ("Landlord"), a Municipal Corporation, with an address at 101 East Washington Street, Charles Town, West Virginia 25414.

RECITALS

WHEREAS Landlord and Tenant are parties to that Lease Agreement dated as of August 11, 2011 (the "Agreement") pursuant to which Tenant is leasing from Landlord space on Landlord's water tank (the "Tank") and within Landlord's Property located off Sawgrass Drive, Charles Town, West Virginia for the purposes of operating certain communications antennas and related equipment thereat (collectively the "Premises"); and

WHEREAS Landlord and Tenant are parties to that First Amendment to Lease Agreement dated as of September 9, 2015 (the "First Amendment") whereby Tenant modified the configuration of its antennas and equipment at the Premises and within the Property in accordance with the terms of the First Amendment and Landlord was amenable to such changes in configuration in accordance with the terms thereof; and

WHEREAS Tenant desires to change the configuration of its antennas and related equipment at the Premises and within the Property in accordance with the terms hereof; and

NOW, THEREFORE, in consideration of the foregoing recitals and the agreements and covenants set forth herein, and for other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the parties hereto agree as follows:

1. In consideration of the equipment configuration set forth in Exhibits 2-2 and 3-2 below, the current Tenant monthly rent is confirmed at Two Thousand Six Hundred Forty-Three Dollars and Fifty-One Cents ($2,643.51). On September 1, 2024, monthly rent shall increase to an amount equal to 103% of $2,643.51, and on each anniversary of Commencement Date thereafter rent shall continue to increase to 103% of the previous year's monthly rental rate, in accordance with Section 4(b) of the Agreement. In the event that this Agreement continues beyond the expiration of the initial Agreement term and any renewal terms provided for herein, the monthly rental payment shall be increased on September 1st of each year during any month-to-month term to an amount equal to 103% of the previous year's term and said rent shall be payable monthly through any month-to-month tenancy.

2. **Exhibit 2** to the Agreement is hereby deleted in its entirety, and the new **Exhibit 2-2** to the Agreement, the Co-Location Application of Tenant, is hereby incorporated into the Agreement in lieu thereof.

3. **Exhibit 3** to the Agreement is hereby deleted in its entirety, and the new **Exhibit 3-2** to the Agreement, the Tenant Approved Construction Drawings, is hereby incorporated into the Agreement in lieu thereof.

4. Except as expressly amended herein, the Agreement and the First Amendment's terms and provisions thereof shall remain in full force and effect. Capitalized terms not otherwise defined herein shall have the meanings ascribed to such terms in the Agreement.

5. This Second Amendment may be executed in multiple counterparts, each of which, when executed, shall be deemed an original instrument, but all of which taken together shall constitute one and the same agreement.

IN WITNESS WHEREOF, the parties have executed this Second Amendment as of the day and year first above written.

TENANT:

CELLCO PARTNERSHIP
d/b/a Verizon Wireless

By: _____

Name:

Title:

LANDLORD:

CITY OF CHARLES TOWN
a Municipal Corporation

By: _____

Name:_____

Title: _____

EXHIBIT 2-2

CO-LOCATION APPLICATION OF TENANT

[See Attached Co-location Application of Tenant]

☐ NEW LEASE ☑ AMENDMENT TO EXISTING LEASE ☐ ANCHOR TENANT ☐ RECONTRACT

INTERNAL USE ONLY	
APP VERSION #	2
LEASE #	16
AMENDMENT #	2

PLEASE RETURN THIS APPLICATION VIA EMAIL TO:

Wireless Networks Group, Inc.
1011 Holden Road
Frederick, Maryland 21701-3437
Attn: Michael Hofe
E-Mail: mhofe@wirelessnetworksgroup.com
Phone: 301-667-0001

Charles Town Site Number:	**WV-003**
Charles Town Site Name:	**Sawgrass Drive**
Application Date:	8/15/23
Revision Dates:	8/22/23 - MEH Clarifications - 9/28/23 - Remove 18 coax
OPS Approval:	10/3/2023

APPLICANT / CARRIER INFORMATION

Carrier Name:	**Verizon Wireless**	**Contact Name:**	**Alexis Miller**
Carrier Site Number:	**5000011107**	**Contact Number:**	**717-747-6041**
Carrier Site Name:	**Aldridge**	**Contact Fax:**	
Carrier Legal Entity Name:	Cellco Partnership d/b/a Verizon Wireless	**Contact Address:**	1997 Annapolis Exchange Pkwy, Suite 200, Annapolis, Maryland 21401
State of registration:	Delaware		
Type of entity (LP, LLC, Corp) d/b/a (If applicable)	General Partnership		
Notice Address for Lease:	180 Washington Valley Road Bedminster, NJ 07921 Attention: Network Real Estate	**Contact E-mail:**	alexis.miller@smartlinkgroup.com
With copies to:		**Additional E-mail:**	Timothy.harris@smartlinkgroup.com Lauren.kersey@smartlinkgroup.com Rency.yeatts@smartlinkgroup.com
Carrier Invoice Address:		**Desired Install Date:**	TBD
Carrier Invoice Contact - Name, Title, Phone No.		**Carrier NOC#**	800-852-2671

ADDITIONAL CONTACT INFORMATION

Leasing Contact Name/Number:	Alexis Miller // 717-747-6041
RF Contact Name/Number:	
Construction Contact Name/Number:	Adam Willetts // 240-481-1433
Emergency Contact Name/Number:	

SITE INFORMATION

Latitude:	**39.281894**	**N**	**Existing Structure Type:**	**Water Tank**
Longitude:	**-77.911975**	**W**	**Existing Structure Height:**	**140'**
Site Address:	**325 Sawgrass Drive, Charles Town, West Virginia 25414**			

FREQUENCY/TECHNOLOGY INFORMATION

Type of Technology for all equipment (i.e., 3G, LTE, CMDA, MW, WiFi, TV, etc.)		700, 850, PCS, AWS, CBAND
TX Frequency (MHz)	Licensed	776-787,880-890,1975-1985,1985-1990,2120-2130,2170-2180,3550-3650,3760-3780,3780-3800
RX Frequency (MHz)	Licensed	746-757,835-845,1720-1730,1730-1735,1770-1780,1895-1905,1905-1910,3550-3650,3700-3720,3720-3740,3740-3760
Tenants using an unlicensed band must provide exact Frequency Channels and Call Sign(s) to be utilized. (Providing the band range only will not be accepted.)		

PLEASE PROVIDE A BRIEF DESCRIPTION OF GENERAL SCOPE OF WORK

Verizon to remove (9) antennas, install (9) antennas, remove (3) RRHs, install (6) RRHs, remove (9) 1-5/8" coax, retain (3) OVPs, and retain (3) hybrid cables. Remove lease rights to (18) coax @ 1-5/8".

EXISTING EQUIPMENT Applicant's Existing Equipment Configuration and Specifications										
Equipment Type (ex: panel, TMA, RRU)	**RAD (feet)**	**Mount Height (feet)**	**Mount Type**	**Equip Qty**	**Equipment Manufacturer**	**Equipment Model #**	**Equip Dim (HxWxD) (ft or in)**	**Equip Weight (lbs)**	**Az**	**Remain**
Panel	129	129	Pipe Mount	1	CSS	X7-FRO-860-0	96" x 15" x 7.3"	48.5	10	No
Panel	129	129	Pipe Mount	1	CSS	X7-FRO-860-0	96" x 15" x 7.3"	48.5	10	No
Panel	129	129	Pipe Mount	1	CSS	X7-FRO-860-0	96" x 15" x 7.3"	48.5	10	No
Panel	129	129	Pipe Mount	1	CSS	X7-FRO-860-0	96" x 15" x 7.3"	48.5	130	No
Panel	129	129	Pipe Mount	1	CSS	X7-FRO-860-0	96" x 15" x 7.3"	48.5	130	No
Panel	129	129	Pipe Mount	1	CSS	X7-FRO-860-0	96" x 15" x 7.3"	48.5	130	No
Panel	129	129	Pipe Mount	1	CSS	X7-FRO-860-0	96" x 15" x 7.3"	48.5	250	No
Panel	129	129	Pipe Mount	1	CSS	X7-FRO-860-0	96" x 15" x 7.3"	48.5	250	No
Panel	129	129	Pipe Mount	1	CSS	X7-FRO-860-0	96" x 15" x 7.3"	48.5	250	No
RRH	129	129	Pipe Mount	3	Nokia	UHBA B13 RRH 4x30	20.9" x 11.8" x 7.5"	55.6	10, 130, 250	No
OVP	129	129	Pipe Mount	3	Raycap	3315 6OVP	28.93" x 15.73" x 10.3"	32	10, 130, 250	Yes

EXISTING LINES Applicant's Existing Lines and Specifications					
Line Type	**Line Size (Inches)**	**Total # of Lines**	**Coax interior or exterior (for monopoles)**	**Remain**	**Comments:**
Coax	1-5/8"	9	N/A	No	Remove current lease rights for 9 existing and 9 future (total 18) 1-5/8" coax
Hybrid Cable	1-1/4"	3	N/A	Yes	

PROPOSED EQUIPMENT Applicant's Proposed Equipment Configuration and Specifications									
Equipment Type (ex: panel, TMA, RRU, ice shields)	**RAD (feet)**	**Mount Height (feet)**	**Mount Type**	**Equip Qty**	**Equipment Manufacturer**	**Equipment Model #**	**Equip Dim (HxWxD) (ft or in)**	**Equip Weight (lbs)**	**Azimuth**
Panel (new)	129	129	Pipe Mount	1	JMA	MX06FRO860-02	95.9" x 15.4" x 10.7"	79	10
Panel (new)	129	129	Pipe Mount	1	JMA	MX06FRO860-02	95.9" x 15.4" x 10.7"	79	10
Panel (new)	129	129	Pipe Mount	1	Samsung	MT6413-77A	28.9" x 15.75" x 5.51"	57.32	10
Panel (new)	129	129	Pipe Mount	1	JMA	MX06FRO860-02	95.9" x 15.4" x 10.7"	79	130
Panel (new)	129	129	Pipe Mount	1	JMA	MX06FRO860-02	95.9" x 15.4" x 10.7"	79	130
Panel (new)	129	129	Pipe Mount	1	Samsung	MT6413-77A	28.9" x 15.75" x 5.51"	57.32	130
Panel (new)	129	129	Pipe Mount	1	JMA	MX06FRO860-02	95.9" x 15.4" x 10.7"	79	250
Panel (new)	129	129	Pipe Mount	1	JMA	MX06FRO860-02	95.9" x 15.4" x 10.7"	79	250
Panel (new)	129	129	Pipe Mount	1	Samsung	MT6413-77A	28.9" x 15.75" x 5.51"	57.32	250
RRH (new)	129	129	Pipe Mount	3	Samsung	RF4461d-13A	15" x 15" x 10.2"	79.1	10, 130, 250
RRH (new)	129	129	Pipe Mount	3	Samsung	B2/B66A RRH ORAN (RF4439d-25A)	15" x 15" x 10.0"	74.73	10, 130, 250
OVP (existing)	129	129	Pipe Mount	3	Raycap	3315 6OVP	28.93" x 15.73" x 10.3"	32	10, 130, 250

PROPOSED LINES Applicant's Proposed Lines and Specifications				
Line Type	**Line Size (Inches)**	**Total # of Lines**	**Coax interior or exterior (for monopoles)**	**Comments:**
Coax	1-5/8"	0		Remove lease rights to eighteen (18) Heliax Cable. No Heliax rights will remain
RET Home Run Cable				
Fiber	1-1/4"	3		Retain three (3) Exisitng Hybrid Cables
DC Power				

PROPOSED FINAL CONFIGURATION TOTALS	
EQUIPMENT TYPE	TOTAL
Panel Antennas	9
Omni/Whip Antennas	
RRU	6
TMA	
Diplexer / Triplexer	
Bias T	
Surge Suppressor	
MW Dish	
Ice Shield	
ODU	
Filter	
Combiner	
Junction Box	3
RET	
Equipment Cabinets	
Other (Please specify)	
Other (Please specify)	
Other (Please specify)	
Other (Please specify)	
Other (Please specify)	

PROPOSED FINAL CONFIGURATION TOTALS	
LINE TYPE	TOTAL
Coax	
Hybrid	3
CAT5	
DC/Power	
RET	
Fiber	

ADDITIONAL EQUIPMENT INFORMATION
• RRUs, TMAs and ODUs are required to be installed directly behind the antennas / MW dish. Otherwise there will be an additional charge. • All equipment lines are required to be installed inside the tower when space is available. Carriers will be charged an additional $25.00 per line per month if equipment lines are installed on the outside of the tower even though there is available space inside the tower. Charles Town must approve any installation of lines on the outside of the tower. • All tenant equipment must be installed within one continuous 10 ft vertical envelope. Exceeding this vertical space will be subject to additional rent.

GROUND / INTERIOR SPACE REQUIREMENTS							
Total Ground / Interior Area Dimensions: **L' x W' = Total Square Feet Required**	30	X	12	(Including all Equipment (i.e., Shelter, Equipment Platform or Pad, Generator Pad, Generator Fuel Tank Pad, Antenna Sleds, etc. – provide details below)			
Cabinet Area Dimensions (Pad/Platform)		X		Cabinet Installation Type	Tenant Shelter		
Shelter Pad Dimensions		X		Shelter Manufacturer			
Rooftop Antenna Total Area Required		X		Antenna Sled Dimensions (per sector)		X	Antenna Wall Mount Dimensions (per sector)		X	

EQUIPMENT CABINET REQUIREMENTS (Required for rooftops or Charles Town interior space)					
Number of Cabinets Required		Cabinet Dimensions (L' x W' x H')		Manufacturer:	
Number of Cabinets Required		Cabinet Dimensions (L' x W' x H')		Manufacturer:	
Number of Cabinets Required		Cabinet Dimensions (L' x W' x H')		Manufacturer:	
Equipment Cabinet Comments					

GENERATOR REQUIREMENTS					
Generator Required?:	Existing	Generator Fuel Type	Diesel	Generator Size	50kw
Generator Pad Dimensions		Internal to Shelter		Generator Manufacturer	
Generator Fuel Tank Pad Dimensions				Fuel Tank Manufacturer	

AC POWER REQUIREMENTS			
Meter Type	Existing Tenant Meter	Estimated Monthly Utility Usage Amount	
Voltage		Total Amperage	

FIBER / BACKHAUL					
Fiber Installation Status	Existing (No Change)	Fiber Provider	Lumos/Segra and Verizon		
Cable Type	Fiber	Number of Points of Entry	2	Conduit/Riser Size (in inches)	

STRUCTURAL ANALYSIS DETAILS			
Structural Hardcopies Required?	No N/A	If wet seals required, please provide address:	

ADDITIONAL COMMENTS
No changes to ground space or equipment.

EXHIBIT 3-2

TENANT APPROVED CONSTRUCTION DRAWINGS

[See Attached Approved Construction Drawings]

verizon

ALDRIDGE WT
5G L-SUB6 - CARRIER ADD

325 SAWGRASS DRIVE
CHARLES TOWN, WEST VIRGINIA 25414

GENERAL NOTES

1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
2. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE VERIZON REPRESENTATIVE OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES, THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
4. THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
6. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS OTHERWISE NOTED OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
8. THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
9. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY, OR LOCAL GOVERNMENT AUTHORITY.
11. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVEMENTS, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
12. THE CONTRACTOR SHALL MAINTAIN THE GENERAL WORK AREA AS CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
13. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
14. THE CONTRACTOR SHALL NOTIFY THE VERIZON REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE VERIZON REPRESENTATIVE.
15. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
16. THE CONTRACTOR SHALL SUBMIT SHOP DRAWING FOR ALL EQUIPMENT/MATERIALS AS DIRECTED IN THESE DRAWINGS. SHOP DRAWINGS SHALL BE SUBMITTED FOR ARCHITECTURAL FINISHES, HARDWARE, ETC.; STRUCTURAL COMPONENTS; AND SERVICE EQUIPMENT ETC.

INDEX OF DRAWINGS

CS-1	COVER SHEET
C-1	SITE PLAN
C-2	SITE DETAILS
C-3	ANTENNA DETAILS
S-1	STRUCTURAL DETAILS
S-2	STRUCTURAL DETAILS & NOTES
E-1	ANTENNA PART PLAN AND NOTES
E-2	DIAGRAMS
E-3	DETAILS

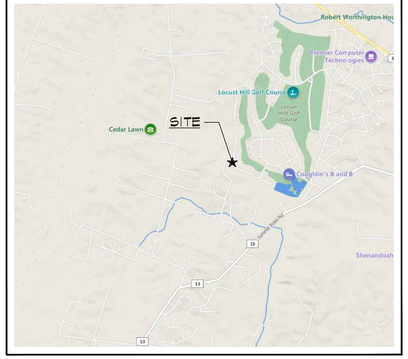
CODE ANALYSIS

APPLICABLE BUILDING CODE:	IBC 2018
USE GROUP:	UTILITY (U)
CONSTRUCTION TYPE:	5B NONCOMBUSTIBLE/

VERIZON REVIEW

BUILDING OWNER	DATE 10/3/2023
ENGINEERING	DATE
OPERATIONS	DATE
CONSTRUCTION	DATE

VICINITY PLAN



PROJECT DESCRIPTION

THIS PROJECT INVOLVES REMOVING NINE (9) ANTENNAS, THREE (3) FROM EACH SECTOR, INSTALLING NINE (9) ANTENNAS, THREE (3) AT EACH SECTOR, REMOVING THREE (3) REMOTE RADIO HEADS (RRH), ONE (1) FROM EACH SECTOR AND INSTALLING SIX (6) REMOTE RADIO HEADS (RRH), TWO (2) AT EACH SECTOR. REMOVE NINE (9) 1-5/8" COAX LINES.

DIRECTIONS TO SITE

FROM 101 TO JUNCTION DRIVE, ANNAPOLIS JUNCTION, MD:

1) HEAD SOUTHWEST ON JUNCTION DR.
2) TURN RIGHT ONTO DORSEY RUN RD.
3) TURN LEFT AND TAKE RAMP ONTO MD-32 W (STAR-SPANGLED BANNER BYWY).
4) CONTINUE ON STATE ROUTE 32 (MD-32).
5) TURN LEFT AND TAKE RAMP ONTO I-70 W (BALTIMORE NATIONAL PIKE) TOWARD US-40 W / FREDERICK.
6) TAKE EXIT 52 ONTO US-15 S / US-340 W (ANTIETAM CAMPAIGN BYWY).
7) CONTINUE ON US-340 W (JEFFERSON NATIONAL PIKE).
8) CONTINUE ON JEFFERSON PIKE (US-340).
9) CONTINUE ON WILLIAM L WILSON FWY.
10) CONTINUE ON W WASHINGTON ST (WV-51).
11) TURN LEFT ONTO W WASHINGTON ST (CR-13) TOWARD SUMMIT POINT RD.
12) CONTINUE ON SUMMIT POINT RD (CR-13).
13) TURN RIGHT ONTO OAKMONT DR.
14) TURN LEFT ONTO TURNBERRY DR.
15) TURN LEFT ONTO SAWGRASS DR.
16) DESTINATION IS ON THE LEFT.

MRA
MORRIS & RITCHIE ASSOCIATES, INC.
Civil / Structural Engineers
1220-B East Joppa Rd, Suite 400K
Towson, Maryland 21286
410-821-1690
410-821-1748 Fax

BRIAN E. SIVERLING 16545 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
5/31/23

verizon
ALDRIDGE WT - 5G L-SUB6 - CARRIER ADD
325 SAWGRASS DRIVE
CHARLES TOWN, WV 25414 (JEFFERSON COUNTY)

REVISIONS:

NO.	DESCRIPTION	DATE
	LANDLORD COMMENTS	09/07/23
	PERMIT DWGS	08/29/23

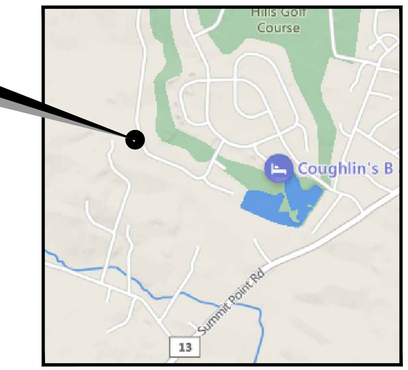
DESIGNED BY:	BES
DRAWN BY:	DNT/JRP
REVIEWED BY:	BES
PROJECT NO:	19214.1205
DATE:	06/06/2023

TITLE: **Cover Sheet**

SHEET: **CS-1**



SITE PLAN
SCALE: 1" = 60'-0"



VICINITY MAP
SCALE: 1" = 1000'

SITE NOTES:

1. APPLICANT: VERIZON WIRELESS
10170 JUNCTION DR, STE 300
ANNAPOLIS JUNCTION MD 20701
TEL. (301) 512-2000
FAX (301) 512-2186

2. PROPERTY OWNER: CHARLES TOWN UTILITY BOARD / CITY OF CHARLES TOWN
661 SOUTH GEORGE STREET, SUITE 101
CHARLES TOWN, WV 25414
ATTN: MICHAEL HOFE - 301-667-0001

3. SITE DATA: DEED BOOK: 466 PAGE: 352
PLAT BOOK: 18 PAGE: 74
PARCEL ID: 020I3A04560000
TRACT AREA: 0.84 ACRES
TAX DISTRICT: CHARLES TOWN
ADDRESS: 325 SAWGRASS DR
CHARLES TOWN, WV 25414
EXISTING USE: WATER UTILITY / TELECOMMUNICATIONS

4. ZONING: LOW DENSITY RESIDENTIAL VACANT

5. HORIZONTAL AND VERTICAL CONTROL SHOWN HEREON IS BASED ON SATELLITE IMAGERY PROGRAMS AND INFORMATION PROVIDED BY VERIZON WIRELESS.
LATITUDE: N39° 16' 54.82" (39.281894°) GROUND ELEVATION: 583.00'± AMSL (AVG.)
LONGITUDE: W77° 54' 49.1" (77.913975°) EXISTING STRUCTURE HEIGHT: 140.00'± AGL
TOTAL ELEVATION (AMSL): 723.00'± AMSL

6. TOTAL DISTURBED AREA = 0 SF

7. THIS PROJECT INVOLVES REMOVING NINE (9) ANTENNAS, THREE (3) FROM EACH SECTOR, INSTALLING NINE (9) ANTENNAS, THREE (3) AT EACH SECTOR, REMOVING THREE (3) REMOTE RADIO HEADS (RRH), ONE (1) FROM EACH SECTOR AND INSTALLING SIX (6) REMOTE RADIO HEADS (RRH), TWO (2) AT EACH SECTOR. REMOVE NINE (9) 1-5/8" COAX LINES.

8. THE STRUCTURE WILL NOT SUPPORT LIGHTS OR SIGNS UNLESS REQUIRED FOR AIRCRAFT MARNING OR OTHER SAFETY RECORDS.

9. THE APPLICANT WILL PROVIDE A CERTIFICATION FROM A REGISTERED ENGINEER THAT THE STRUCTURE WILL MEET THE APPLICABLE DESIGN STANDARDS FOR WIND LOADS PER THE REQUIREMENTS OF THE TELECOMMUNICATIONS INDUSTRY ASSOCIATION.

10. IF THE ANTENNAS ARE NO LONGER USED FOR TELECOMMUNICATIONS PURPOSES FOR A CONTINUOUS PERIOD OF ONE (1) YEAR, THEY SHALL BE REMOVED BY THE ANTENNA OWNER AT OWNER'S EXPENSE.

11. NO WATER OR SANITARY UTILITIES ARE REQUIRED FOR THE OPERATION OF THIS FACILITY.

12. STORMWATER MANAGEMENT NOTE: NO STORMWATER MANAGEMENT IS REQUIRED FOR THIS SITE.

13. BOUNDARY SHOWN PER COUNTY RECORDS.

14. THIS PLAN PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT. PLAN IS SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD.

15. ALL DETAILS SHOWN ARE "STANDARD" OR "TYPICAL" FOR REFERENCE ONLY. FOR ACTUAL DETAILS, SEE ARCHITECTURAL, STRUCTURAL OR CONSTRUCTION PLANS BY OTHERS.

16. STRUCTURAL ANALYSIS/DESIGN TO BE PERFORMED BY OTHERS AT CLIENT AND/OR OWNER'S DISCRETION PRIOR TO COMMENCEMENT OF ANY WORK.

17. THE COMMUNICATION EQUIPMENT SHALL BE UNMANNED, WITH INFREQUENT VISITS (FOUR OR FEWER PER YEAR) BY MAINTENANCE PERSONNEL, AND WITH ACCESS AND PARKING FOR NO MORE THAN ONE VEHICLE. THE PROPOSED FACILITY IS NOT FOR HUMAN HABITATION AND THEREFORE HANDICAP ACCESS IS NOT REQUIRED.

18. THE PROPOSED COMMUNICATIONS EQUIPMENT, ANTENNAS AND RELATED MOUNTING DEVICES DO NOT EXCEED TWELVE (12) FEET IN TOTAL HEIGHT.

GENERAL NOTES:

1. CONTRACTOR SHALL NOTIFY "MISS UTILITY" (811) 48 HOURS PRIOR TO DOING ANY EXCAVATION IN THIS AREA. CONTRACTOR SHALL CONTACT A SUBSURFACE UTILITY LOCATOR FOR LOCATION OF EXISTING UTILITIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL VERIFY EXISTING UTILITY LOCATIONS BY TEST PIT AS NECESSARY. LOCATION OF UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATE AND FOR PLANNING PURPOSES ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. DAMAGE TO UTILITIES OR PROPERTY OF OTHER BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE REPAIRED TO PRECONSTRUCTION CONDITIONS BY THE CONTRACTOR.

2. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH ALL STATE AND LOCAL CODES AND ORDINANCES, THE LATEST EDITION THEREOF.

3. ANY PERMITS WHICH MUST BE OBTAINED SHALL BE THE CONTRACTOR'S RESPONSIBILITY. CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS FOR THIS PROJECT FROM ALL APPLICABLE GOVERNMENTAL AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.

4. CONTRACTOR SHALL COORDINATE ALL UTILITY CONNECTIONS WITH APPROPRIATE UTILITY OWNERS.

5. THESE PLANS ARE NOT FOR RECORDATION OR CONVEYANCE.

6. EXISTING PAVEMENT AND OTHER SURFACES DISTURBED BY CONTRACTOR (WHICH ARE NOT TO BE REMOVED) SHALL BE REPAIRED TO PRECONSTRUCTION CONDITIONS BY THE CONTRACTOR.

811
Know what's below.
Call before you dig.
PROTECT YOURSELF, GIVE THREE WORKING DAYS NOTICE
THIS DRAWING DOES NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. ALL CONSTRUCTION MUST BE DONE IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AND ALL RULES AND REGULATIONS THERE TO APPURTENANT.

MORRIS & RITCHIE ASSOCIATES, INC.
Civil / Structural Engineers
1220-B East Joppa Rd, Suite 400K
Towson, Maryland 21286
410-821-1690
410-821-1748 Fax

BRIAN E. SWERLING
16545
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER
07/07/23

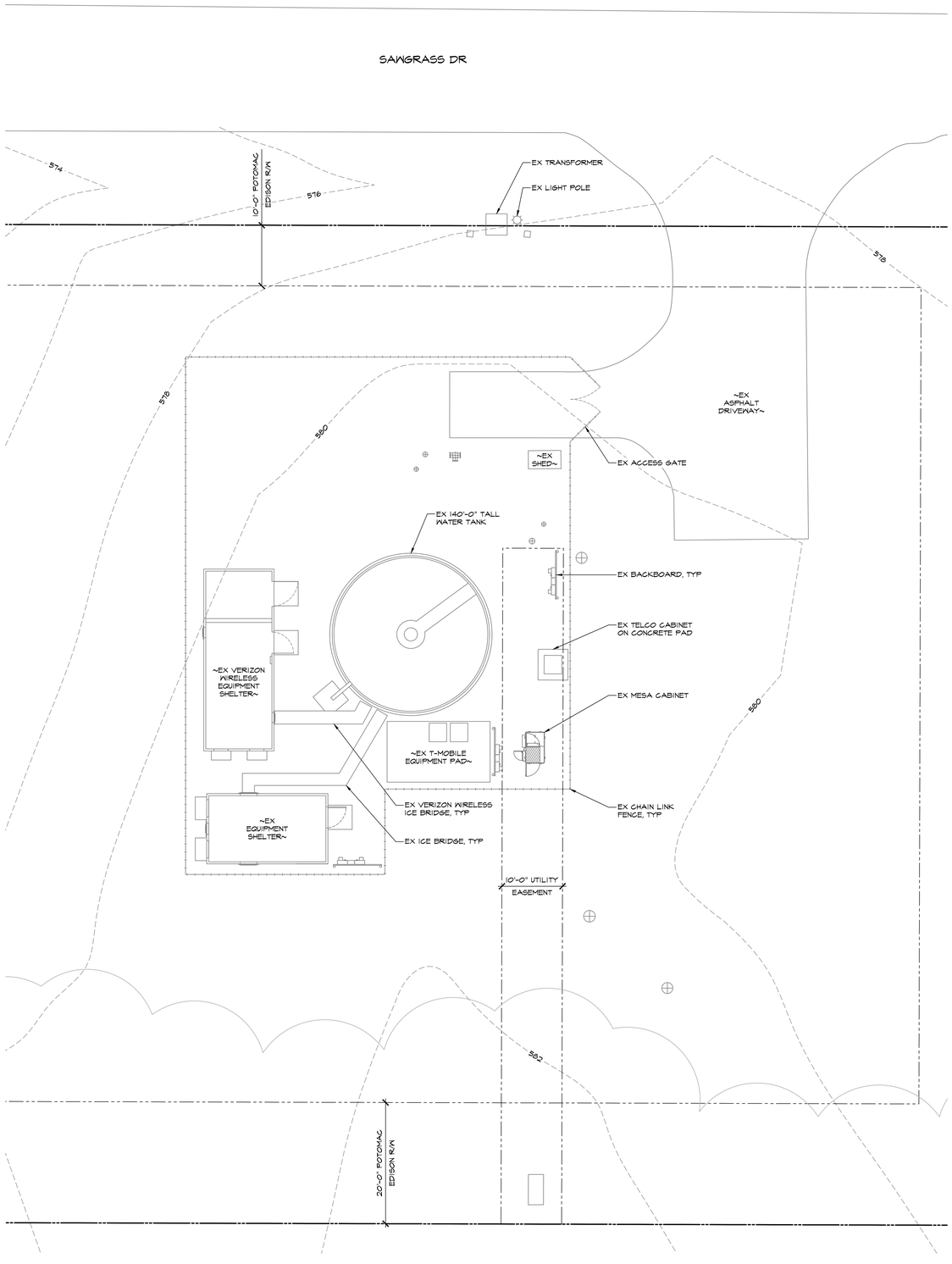
verizon
ALDRIDGE MT - 5G L-SUB6 - CARRIER ADD
325 SAWGRASS DRIVE
CHARLES TOWN, WV 25414 (JEFFERSON COUNTY)

REVISIONS:		
NO.	DESCRIPTION	DATE
	LANDLORD COMMENTS	09/07/23
	PERMIT DWGS	08/28/23

DESIGNED BY:	BES
DRAWN BY:	DNT/JRP
REVIEWED BY:	BES
PROJECT NO:	19214.1205
DATE:	06/06/2023

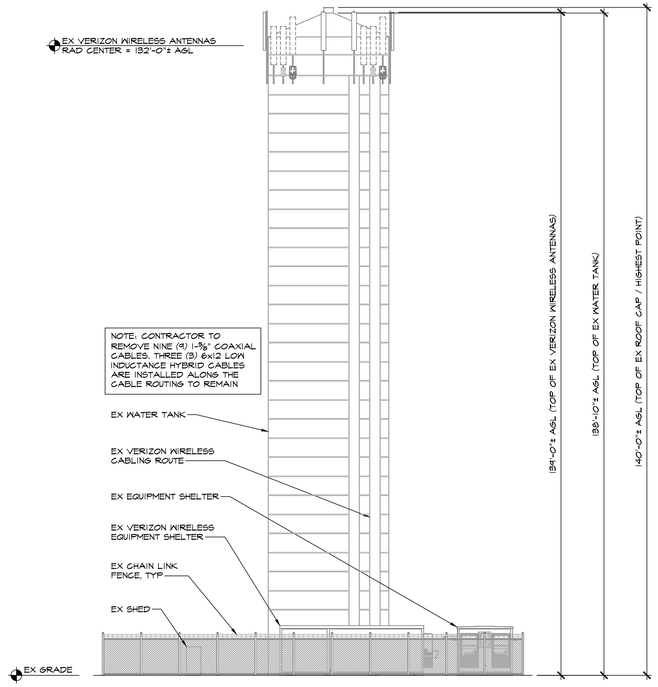
TITLE: **Site Plan**

SHEET: **C-1**



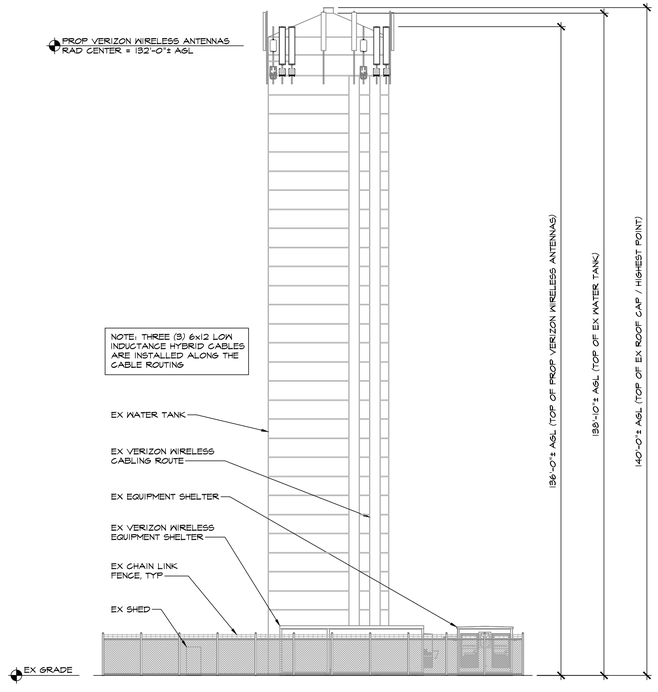
ENLARGED COMPOUND LAYOUT

SCALE: 1" = 10'-0"



EXISTING WATER TANK ELEVATION

SCALE: 1" = 15'-0"



PROPOSED WATER TANK ELEVATION

SCALE: 1" = 15'-0"

811 Know what's below. Call before you dig.

PROTECT YOURSELF, GIVE THREE WORKING DAYS NOTICE

THIS DRAWING DOES NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. ALL CONSTRUCTION MUST BE DONE IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AND ALL RULES AND REGULATIONS THERE TO APPURTENANT.

MORRIS & RITCHIE ASSOCIATES, INC.
Civil / Structural Engineers
1220-B East Joppa Rd, Suite 400K
Towson, Maryland 21286
410-821-1690
410-821-1748 Fax

BRIAN E. SWERING 16545 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER 09/07/23

verizon

ALDRIDGE NT - 56 L-SUB6 - CARRIER ADD
325 SAWGRASS DRIVE
CHARLES TOWN, WV 25414 (JEFFERSON COUNTY)

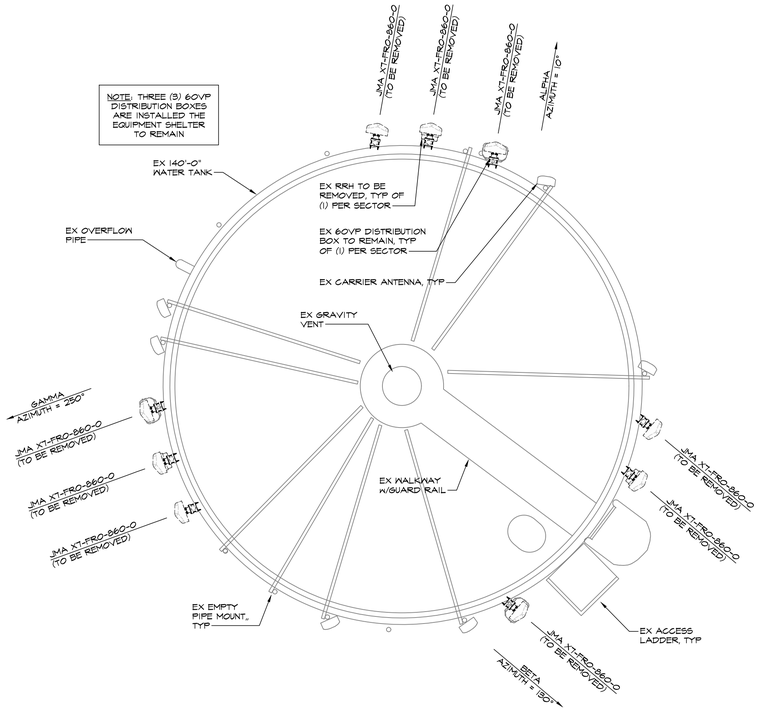
REVISIONS:

NO.	DESCRIPTION	DATE
	LANDLORD COMMENTS	09/07/23
	PERMIT DWGS	08/29/23

DESIGNED BY:	BES
DRAWN BY:	DNT/JRP
REVIEWED BY:	BES
PROJECT NO:	19214.1205
DATE:	06/06/2023

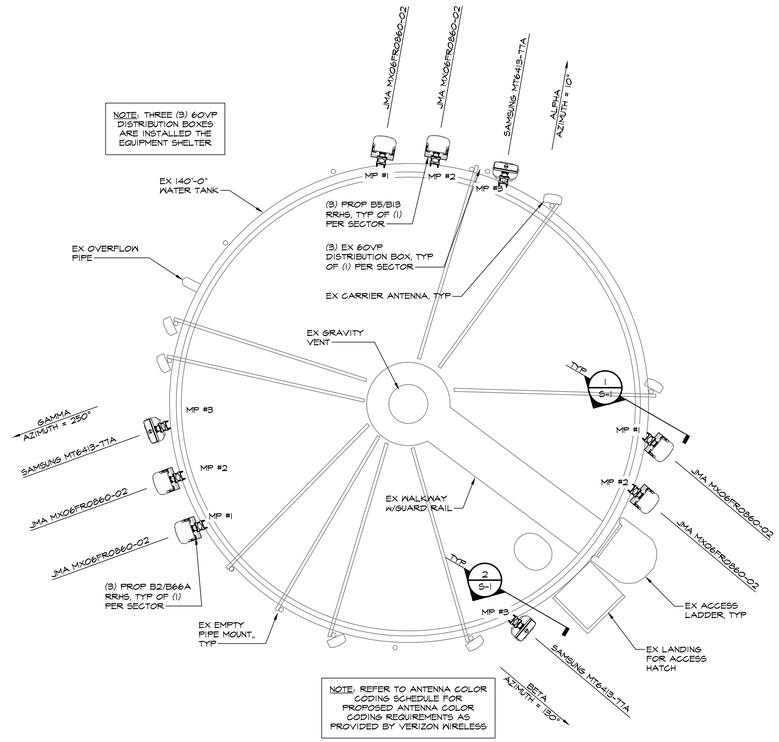
TITLE: **Site Details**

SHEET: **C-2**



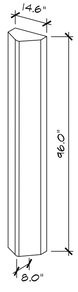
EXISTING ANTENNA SECTOR PLAN

SCALE: 1/4" = 1'-0"

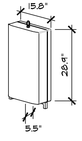


PROPOSED ANTENNA SECTOR PLAN

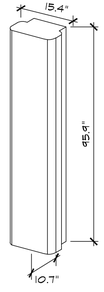
SCALE: 1/4" = 1'-0"



JMA
X7-FRO-860-O



SAMSUNG
MT6413-77A



JMA
MX06FRO860-02

EXISTING VERIZON WIRELESS ANTENNA DETAILS

NOT TO SCALE

PROPOSED VERIZON WIRELESS ANTENNA DETAILS

NOT TO SCALE

ANTENNA COLOR CODING SCHEDULE

SECTOR	POS	MANUFACTURER	MODEL #	AZIMUTH	RAD CENTER (FT)	CABLES	ANTENNA TECHNOLOGY	ANTENNA COLOR CODING
ALPHA	1	JMA	MX06FRO860-02	10°	132'-0"±	EX ONE (1) 6X12 LOW INDUCTANCE HYBRIFLEX CABLE	700/850/2100 (6 CABLES)	TX: PURPLE/GREEN/RED/GREEN/PURPLE (PU/G/R/G/PU) RX: PURPLE/GREEN/2RED/GREEN/PURPLE (PU/G/2R/G/PU) TX: ORANGE/RED/ORANGE (O/R/O) RX: ORANGE/2RED/ORANGE (O/2R/O) TX: ORANGE/3RED/ORANGE (O/3R/O) RX: ORANGE/4RED/ORANGE (O/4R/O)
	2	JMA	MX06FRO860-02	10°	132'-0"±		700/850/1900 (6 CABLES)	TX: PURPLE/GREEN/3RED/GREEN/PURPLE (PU/G/3R/G/PU) RX: PURPLE/GREEN/4RED/GREEN/PURPLE (PU/G/4R/G/PU) TX: PINK/RED/PINK (P/R/P) RX: PINK/2RED/PINK (P/2R/P) TX: PINK/3RED/PINK (P/3R/P) RX: PINK/4RED/PINK (P/4R/P)
	3	SAMSUNG	MT6413-77A	10°	132'-0"±		C-BAND	RED/RED/RED (R/R/R) - HYBRIFLEX JUMPER
BETA	1	JMA	MX06FRO860-02	130°	132'-0"±	EX ONE (1) 6X12 LOW INDUCTANCE HYBRIFLEX CABLE	700/850/2100 (6 CABLES)	TX: PURPLE/GREEN/BLUE/GREEN/PURPLE (PU/G/B/G/PU) RX: PURPLE/GREEN/2BLUE/GREEN/PURPLE (PU/G/2B/G/PU) TX: ORANGE/BLUE/ORANGE (O/B/O) RX: ORANGE/2BLUE/ORANGE (O/2B/O) TX: ORANGE/3BLUE/ORANGE (O/3B/O) RX: ORANGE/4BLUE/ORANGE (O/4B/O)
	2	JMA	MX06FRO860-02	130°	132'-0"±		700/850/1900 (6 CABLES)	TX: PURPLE/GREEN/3BLUE/GREEN/PURPLE (PU/G/3B/G/PU) RX: PURPLE/GREEN/4BLUE/GREEN/PURPLE (PU/G/4B/G/PU) TX: PINK/BLUE/PINK (P/B/P) RX: PINK/2BLUE/PINK (P/2B/P) TX: PINK/3BLUE/PINK (P/3B/P) RX: PINK/4BLUE/PINK (P/4B/P)
	3	SAMSUNG	MT6413-77A	130°	132'-0"±		C-BAND	RED/BLUE/RED (R/B/R) - HYBRIFLEX JUMPER
GAMMA	1	JMA	MX06FRO860-02	250°	132'-0"±	EX ONE (1) 6X12 LOW INDUCTANCE HYBRIFLEX CABLE	700/850/2100 (6 CABLES)	TX: PURPLE/GREEN/YELLOW/GREEN/PURPLE (PU/G/Y/G/PU) RX: PURPLE/GREEN/2YELLOW/GREEN/PURPLE (PU/G/2Y/G/PU) TX: ORANGE/YELLOW/ORANGE (O/Y/O) RX: ORANGE/2YELLOW/ORANGE (O/2Y/O) TX: ORANGE/3YELLOW/ORANGE (O/3Y/O) RX: ORANGE/4YELLOW/ORANGE (O/4Y/O)
	2	JMA	MX06FRO860-02	250°	132'-0"±		700/850/1900 (6 CABLES)	TX: PURPLE/GREEN/3YELLOW/GREEN/PURPLE (PU/G/3Y/G/PU) RX: PURPLE/GREEN/4YELLOW/GREEN/PURPLE (PU/G/4Y/G/PU) TX: PINK/YELLOW/PINK (P/Y/P) RX: PINK/2YELLOW/PINK (P/2Y/P) TX: PINK/3YELLOW/PINK (P/3Y/P) RX: PINK/4YELLOW/PINK (P/4Y/P)
	3	SAMSUNG	MT6413-77A	250°	132'-0"±		C-BAND	RED/YELLOW/RED (R/Y/R) - HYBRIFLEX JUMPER

811
Know what's below.
Call before you dig.
PROTECT YOURSELF, GIVE THREE WORKING DAYS NOTICE
THIS DRAWING DOES NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. ALL CONSTRUCTION MUST BE DONE IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AND ALL RULES AND REGULATIONS THERE TO APPURTENANT.

MORRIS & RITCHIE ASSOCIATES, INC.
Civil / Structural Engineers
1220-B East Joppa Rd, Suite 400K
Towson, Maryland 21286
410-821-1690
410-821-1748 Fax

BRIAN E. SIVERLING 16545 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER 09/07/23

verizon

ALDRIDGE MT - 5G L-SUB6 - CARRIER ADD
325 SANGRASS DRIVE
CHARLES TOWN, WV 25414 (JEFFERSON COUNTY)

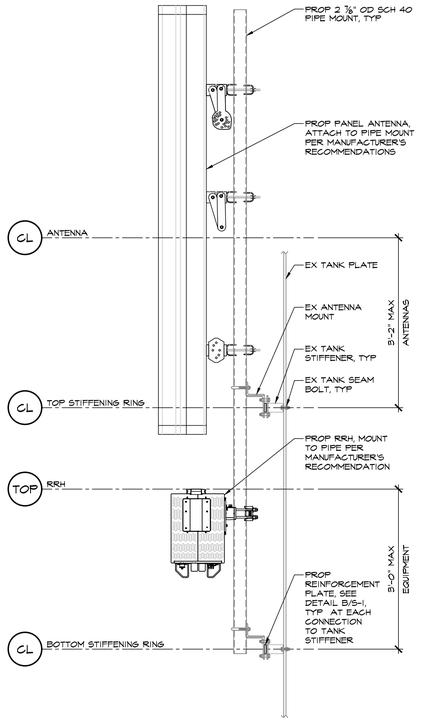
REVISIONS:

NO.	DESCRIPTION	DATE
	LANDLORD COMMENTS	09/07/23
	PERMIT DWGS	08/29/23

DESIGNED BY: BES
DRAWN BY: DNT/JRP
REVIEWED BY: BES
PROJECT NO: 19214.1205
DATE: 06/06/2023

TITLE:
Antenna Details

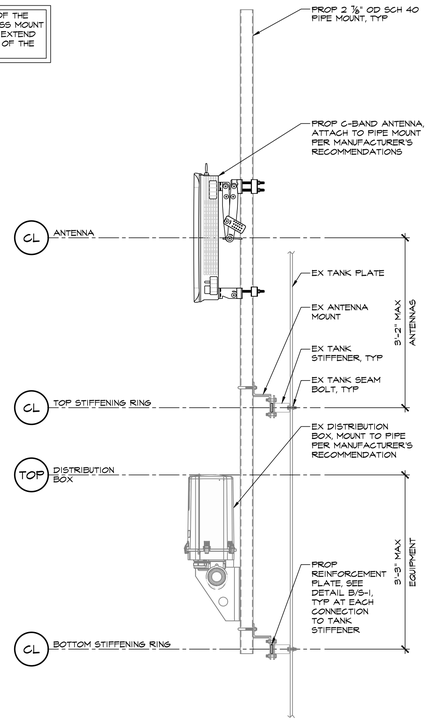
SHEET:
C-3



1 C-3 **TYPICAL ANTENNA & EQUIPMENT MOUNT**

SCALE: 3/4" = 1'-0"

NOTE: THE TOP OF THE VERIZON WIRELESS MOUNT PIPES MUST NOT EXTEND ABOVE THE TOP OF THE WATER TANK.



2 C-3 **TYPICAL ANTENNA & EQUIPMENT MOUNT**

SCALE: 3/4" = 1'-0"

TYPICAL BOLT ASSEMBLIES				
TYPE	GRADE	FINISH	WASHER[2]	NUT
STRUCTURAL	ASTM F3125 GR A325	GALV.	ASTM F436	ASTM A563
U-BOLT	SAE J429 GRADE 2	GALV.	ASTM F436/F844	SAE J995

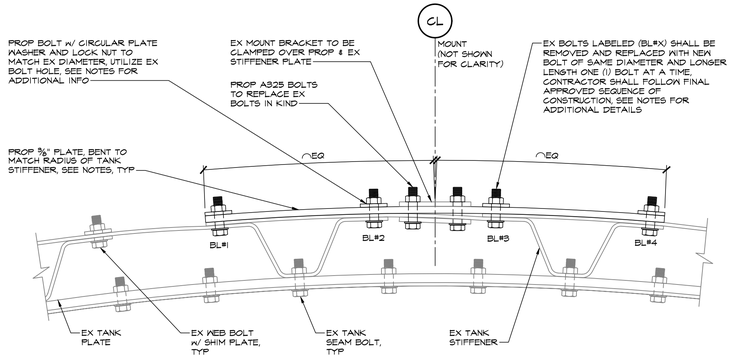
NOTES:

1. ALL BOLTS SHALL BE TIGHTENED TO SNUG-TIGHT OR UNTIL DEFORMATION OCCURS.
2. A WASHER SHALL BE PROVIDED UNDER ANY ELEMENT THAT IS TURNED (NUT OR HEAD).

TYPICAL CONNECTION REQUIREMENTS			
BOLT DIAMETER	STANDARD HOLE	MINIMUM EDGE DISTANCE	MINIMUM CENTER TO CENTER SPACING
½"	9/16"	¾"	1½"
⅝"	11/16"	⅞"	1⅞"
¾"	13/16"	1"	2¼"

A **TYP CONNECTION REQUIREMENTS**

SCALE: NTS



NOTES:

1. CONTRACTOR SHALL PROVIDE DETAILED SEQUENCE OF CONSTRUCTION TO THE TANK MANUFACTURER, TANK OWNER, & STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.
2. CONTRACTOR SHALL VERIFY EXISTING BOLT DIAMETER & PROVIDE LONGER BOLTS OF EXISTING BOLT DIAMETER.
4. CONTRACTOR SHALL INSTALL PROP REINFORCEMENT PLATES ONE AT A TIME. AT NO TIME SHALL MORE THAN (1) BOLT BE REMOVED FROM THE EXISTING TANK STIFFENER ASSEMBLY. REFER TO SUGGESTED SEQUENCE OF CONSTRUCTION.
5. ANTENNAS AND EQUIPMENT ARE NOT SHOWN FOR CLARITY.

B **TYP MOUNT REINFORCEMENT DETAIL**

SCALE: 3" = 1'-0"

SUGGESTED SEQUENCE OF CONSTRUCTION:

A. CONTRACTOR SHALL FOLLOW THE STEPS BELOW AND INSTALL ONE (1) MOUNT ANGLE AT A TIME.

B. CONTRACTOR SHALL TEMPORARILY TIE THE ADJACENT STIFFENER WEBS ON BOTH SIDES OF THE SECTION BEING MODIFIED.

C. CONTRACTOR SHALL REMOVE ONE BOLT AT A TIME AND IMMEDIATELY REPLACE WITH A LONGER BOLT AND LOOSELY ATTACH THE NUT.

D. CONTRACTOR SHALL REPEAT THE PROCESS FOR ALL THE BOLTS REQUIRED TO INSTALL THE MOUNT ANGLE . BOLT LABELS (BL#1, BL#2, BL#3, BL#4).

E. ONCE ALL THE BOLTS REQUIRED FOR ONE (1) REINFORCEMENT PLATE ARE REPLACED, CONTRACTOR SHALL REMOVE THE NUTS, INSTALL THE REINFORCEMENT PLATE, CIRCULAR SHIMS, AND LOCK WASHER, AND IMMEDIATELY TIGHTEN THE NUTS. CONTRACTOR SHALL ENSURE THAT AT NO POINT WHILE INSTALLING THE REINFORCEMENT PLATE SHALL ANY OF THE BOLT LABELS (BL#1, BL#2, BL#3, BL#4) BE ALLOWED TO BACK OUT OF THE PLIES BEING ATTACHED.

NOTE : CONTRACTOR SHALL PROVIDE DETAILED SEQUENCE OF CONSTRUCTION TO THE TANK OWNER, & STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.

811 Know what's **below.** **Call** before you dig.

PROTECT YOURSELF, GIVE THREE WORKING DAYS NOTICE.

THIS DRAWING DOES NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. ALL CONSTRUCTION MUST BE DONE IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AND ALL RULES AND REGULATIONS THERE TO APPURTENANT.

MORRIS & RITCHIE ASSOCIATES, INC.
Civil / Structural Engineers
1220-B East Joppa Rd, Suite 400K
Towson, Maryland 21286
410-821-1690
410-821-1748 Fax

BRIAN E. SWERLING 16545 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER 09/07/23

verizon

ALDRIDGE MT - 5G L-SUB6 - CARRIER ADD
325 SANGRASS DRIVE
CHARLES TOWN, WV 25414 (JEFFERSON COUNTY)

REVISIONS:		
NO.	DESCRIPTION	DATE
	LANDLORD COMMENTS	09/07/23
	PERMIT DWGS.	08/29/23

DESIGNED BY: BES
DRAWN BY: DNT/JRP
REVIEWED BY: BES
PROJECT NO: 19214.1205
DATE: 06/06/2023

TITLE: **Structural Details & Notes**

SHEET: **S-1**

STRUCTURAL NOTES

1. BUILDING CODES

   A. ALL CONSTRUCTION SHALL CONFORM WITH THE THE 2018 WEST VIRGINIA BUILDING CODE, AND ALL SUBSEQUENT SUPPLEMENTS.

   B. ANSI/TIA-222-H-2017 "STRUCTURAL STANDARD FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS", AND ALL SUBSEQUENT SUPPLEMENTS

   C. IN ADDITION, ALL CONSTRUCTION SHALL CONFORM WITH THE GOVERNING LOCAL BUILDING CODE

2. DESIGN LOADS

   A. WIND LOAD DESIGN DATA

ULTIMATE WIND SPEED (NO ICE):	Vult = 118 MPH
BASIC WIND SPEED (WITH ICE):	Vi = 30 MPH
DESIGN RADIAL ICE THICKNESS:	1" (ICE THICKNESS INCREASES W/ HEIGHT)
RISK CATEGORY:	III
EXPOSURE CATEGORY:	C
TOPOGRAPHIC CATEGORY:	1

   B. SEISMIC DESIGN DATA

SHORT PERIOD ACCELERATION, Ss:	0.126 g
ONE SECOND PERIOD ACCELERATION, S1:	0.069 g
SITE CLASS:	D (BY DEFAULT)
DAMPED SHORT PERIOD ACCELERATION, Sds:	0.134 g
RESPONSE MODIFICATION FACTOR, R:	2.0
SEISMIC RESPONSE COEFFICIENT, Cs:	0.084 g

   C. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN, INSTALLATION AND REMOVAL OF TEMPORARY BRACING AND CONSTRUCTION SUPPORTS FOR THE EXISTING STRUCTURE, AS REQUIRED TO COMPLETE THE PROJECT. THE CONTRACTOR IS COMPLETELY RESPONSIBLE FOR THE METHOD OF CONSTRUCTION AND SHALL PROVIDE ALL TEMPORARY BRACING AND SHORING REQUIRED TO MAINTAIN THE STABILITY OF THE STRUCTURE AND TO SUPPORT CONSTRUCTION LOADS DURING CONSTRUCTION.

3. MISCELLANEOUS

   A. ALL WORK SHALL BE PERFORMED IN CALM WEATHER, WITH WIND GUSTS LESS THAN 20 MPH.

   B. SHOP DRAWINGS FOR ALL STRUCTURAL ELEMENTS SHOWN ON THE CONTRACT DOCUMENTS MUST BE SUBMITTED BY THE CONTRACTOR OR OWNER FOR REVIEW BY THE ENGINEER. IF THE CONTRACTOR OR OWNER FAILS TO SUBMIT THE SHOP DRAWINGS, THE ENGINEER WILL NOT BE RESPONSIBLE FOR STRUCTURAL CERTIFICATION AND DESIGN OF THE PROJECT. THE SHOP DRAWINGS SHALL INDICATE ANY DEVIATIONS OR OMISSIONS FROM THE CONTRACT DOCUMENTS. THE GENERAL CONTRACTOR SHALL REVIEW ALL SHOP DRAWINGS PRIOR TO SUBMISSION AND MAKE ALL CORRECTIONS DEEMED NECESSARY.

   C. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS SHOWN ON THE CONTRACT DRAWINGS BEFORE PROCEEDING WITH CONSTRUCTION. ALL DISCREPANCIES AND OMISSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER.

   D. THE CONTRACTOR SHALL NOT SUBMIT REPRODUCTIONS OF THE STRUCTURAL CONTRACT DOCUMENTS AS SHOP DRAWINGS.

   E. SCALES SHOWN ON THE STRUCTURAL CONTRACT DRAWINGS ARE FOR GENERAL INFORMATION ONLY. DIMENSIONAL INFORMATION SHALL NOT BE OBTAINED BY SCALING THE DRAWINGS.

4. EXISTING STRUCTURE

   A. ALL EXISTING PLANS, DETAILS, DIMENSIONS, AND ELEVATIONS INDICATE EXISTING CONDITIONS AS KNOWN. THE EXISTING INFORMATION SHOWN IS NOT INTENDED TO BE "AS BUILT" AND THE ACTUAL CONSTRUCTION MAY DIFFER FROM THAT SHOWN. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS INCLUDING DIMENSIONS AND ELEVATIONS PRIOR TO STARTING CONSTRUCTION. MINOR VARIATIONS CAN BE EXPECTED AND ANY REQUIRED DEVIATION FROM THE CONTRACT DOCUMENTS SHALL BE APPROVED BY THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

   B. CONTRACTOR TO PROVIDE TEMPORARY SUPPORT FOR ALL EXISTING ANTENNAS, TRANSMISSION LINES, OR OTHER APPURTENANCES, AS NEEDED, DURING CONSTRUCTION.

   C. CONTRACTOR SHALL PROTECT ALL EXISTING APPURTENANCES FROM DAMAGE DURING CONSTRUCTION.

   D. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRS TO ANY STRUCTURAL ELEMENTS WHICH ARE TO REMAIN AND THAT HAVE BEEN DAMAGED TO THE COMPLETE SATISFACTION OF THE OWNER. THE REPAIRS SHALL BE AT NO EXPENSE TO THE OWNER. ALL REPAIR WORK SHALL BE DESIGNED BY A LICENSED STRUCTURAL ENGINEER IN THE STATE THAT THE PROJECT IS LOCATED AND SUBMITTED TO THE STRUCTURAL ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO COMMENCING REPAIR WORK.

   E. DO NOT PERMIT PORTIONS OF THE STRUCTURE TO FALL NOR DEBRIS TO DROP EXCEPT BY METHODS WHICH WILL ENSURE INTEGRITY OF THE STRUCTURE.

   F. THE CONTRACTOR SHALL MONITOR THE EXISTING STRUCTURE DURING CONSTRUCTION. IMMEDIATELY NOTIFY THE ENGINEER OF AREAS EXHIBITING DISTRESS OR FAILURE.

5. STRUCTURAL AND MISCELLANEOUS STEEL

   A. ALL STEEL CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF THE AISC STEEL CONSTRUCTION MANUAL "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" (ANSI/AISC 360) AND THE AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES".

   B. ALL MISCELLANEOUS STEEL (ANGLES, PLATES, ETC.) SHALL CONFORM TO ASTM A 36 HAVING A MINIMUM YIELD STRENGTH OF Fy = 36,000 PSI.

   C. ALL STRUCTURAL STEEL PIPE SHALL CONFORM TO ASTM A 53 GRADE "B", HAVING A MINIMUM YIELD STRENGTH OF Fy = 35,000 PSI.

   D. ALL STRUCTURAL BOLTS SHALL CONFORM TO ASTM F3125 GRADE A325 (Fu = 120 KSI).

   E. ALL U-BOLTS SHALL CONFORM TO SAE J429, GRADE 2 (Fu = 74 KSI), WITH SAE J995 NUTS AND WASHERS.

   F. ALL NUTS SHALL CONFORM TO ASTM A563.

   G. ALL WASHERS SHALL CONFORM TO ASTM F436.

   H. ALL SHOP AND FIELD WELDS REQUIRED BY THE SCOPE OF THIS PROJECT SHALL BE PERFORMED BY CERTIFIED WELDERS AND CONFORM TO THE AMERICAN WELDING SOCIETY CODE FOR BUILDINGS AWS D1.1. WELDS SHALL DEVELOP THE FULL STRENGTH OF MATERIALS BEING WELDED UNLESS OTHERWISE INDICATED.

   I. ALL CONNECTIONS TO EXISTING STEEL FRAMING SHALL BE FIELD BOLTED UNLESS OTHERWISE INDICATED. THE CONTRACTOR MAY SUBSTITUTE WELDED CONNECTIONS PROVIDED THE EXISTING STEEL IS TESTED TO DETERMINE STRENGTH AND CHEMICAL PROPERTIES. TEST METHODS AND RESULTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO ANY FIELD WELDING TO EXISTING STEEL.

   J. ALL EXPOSED STRUCTURAL STEEL SHALL CONFORM TO THE AISC "SPECIFICATION FOR ARCHITECTURALLY EXPOSED STRUCTURAL STEEL".

   K. THE CONTRACTOR SHALL NOT SPLICE OR CUT OPENINGS IN STEEL MEMBERS NOT SHOWN ON CONTRACT DRAWINGS WITHOUT THE PERMISSION OF THE STRUCTURAL ENGINEER.

   L. AN INDEPENDENT INSPECTION AGENCY SHALL INSPECT ALL STRUCTURAL STEEL AND VERIFY THAT IT CONFORMS TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. FIELD INSPECTION REPORTS SHALL BE SUBMITTED TO THE ENGINEER WITHIN 5 DAYS OF THE INSPECTION. THE CONTRACTOR SHALL NOTIFY THE INSPECTION AGENCY OF ALL PHASES OF STEEL CONSTRUCTION AND WELDING.

   M. STEEL MEMBERS, FABRICATIONS AND ASSEMBLIES INDICATED TO BE GALVANIZED SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A 123 AFTER FABRICATION. ALL EXPOSED STEEL MEMBERS SHALL BE HOT DIPPED GALVANIZED. ALL BOLTS, WASHERS & NUTS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM F2329.

   N. DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY COLD GALVANIZING IN ACCORDANCE WITH ASTM A780.

   O. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS INDICATING THE SIZES, EXTENT, AND LOCATION OF ALL STRUCTURAL AND MISCELLANEOUS STEEL FRAMING INCLUDING ALL CONNECTIONS, FASTENERS, AND BEARINGS.

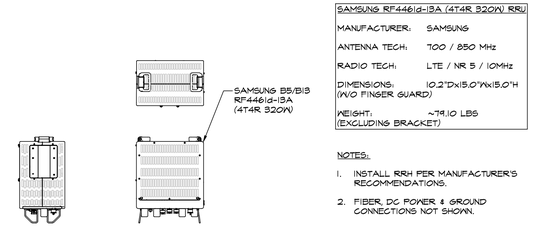
6. POST-MODIFICATION INSPECTION

   A. A POST-MODIFICATION INSPECTION REPORT IS REQUIRED AND SHALL BE INCLUDED IN THE CONTRACTOR'S BID. A POST-MODIFICATION INSPECTION IS A VISUAL INSPECTION OF THE APPURTENANCE CONFIGURATION AND A REVIEW OF MATERIAL SUBMITTALS OTHER REPORTS TO ENSURE THE INSTALLATION WAS CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, NAMELY THE CONSTRUCTION DRAWINGS.

   B. THE POST-MODIFICATION INSPECTION REPORT SHALL BE COMPLETED BY A PROFESSIONAL ENGINEER LICENSED IN THE JURISDICTION IN WHICH THE PROJECT IS LOCATED.

   C. THE INTENT OF THE POST-MODIFICATION INSPECTION REPORT IS TO CONFIRM INSTALLATION AND CONFIGURATION AND WORKMANSHIP ONLY AND IS NOT A REVIEW OF THE CONSTRUCTION DESIGN ITSELF.

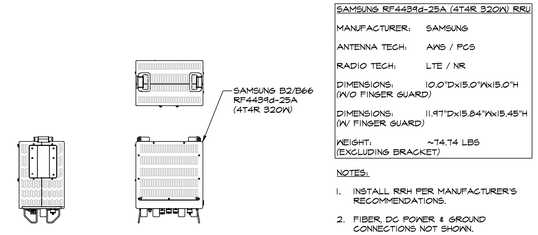
   D. TO ENSURE THAT THE REQUIREMENTS OF THE POST-MODIFICATION INSPECTION REPORT ARE MET, IT IS VITAL THAT THE CONTRACTOR AND POST-MODIFICATION INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS A P.O. IS RECEIVED.



SAMSUNG RF4461d-13A (4T4R 320W) RRU	
MANUFACTURER:	SAMSUNG
ANTENNA TECH:	700 / 850 MHz
RADIO TECH:	LTE / NR 5 / 10MHz
DIMENSIONS: (W/O FINGER GUARD)	10.2"Dx15.0"Wx15.0"H
WEIGHT: (EXCLUDING BRACKET)	~79.10 LBS

NOTES:
1. INSTALL RRH PER MANUFACTURER'S RECOMMENDATIONS.
2. FIBER, DC POWER & GROUND CONNECTIONS NOT SHOWN.

SAMSUNG B5/B13 RF4461d-13A (4T4R 320W) RRU - DETAIL
NOT TO SCALE



SAMSUNG RF4439d-25A (4T4R 320W) RRU	
MANUFACTURER:	SAMSUNG
ANTENNA TECH:	AWS / PCS
RADIO TECH:	LTE / NR
DIMENSIONS: (W/O FINGER GUARD)	10.0"Dx15.0"Wx15.0"H
DIMENSIONS: (W/ FINGER GUARD)	11.97"Dx15.84"Wx15.45"H
WEIGHT: (EXCLUDING BRACKET)	~74.74 LBS

NOTES:
1. INSTALL RRH PER MANUFACTURER'S RECOMMENDATIONS.
2. FIBER, DC POWER & GROUND CONNECTIONS NOT SHOWN.

SAMSUNG B2/B66 RF4439d-25A (4T4R 320W) RRU - DETAIL
NOT TO SCALE

811
Know what's below.
Call before you dig.
PROTECT YOURSELF, GIVE THREE WORKING DAYS NOTICE

THIS DRAWING DOES NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. ALL CONSTRUCTION MUST BE DONE IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AND ALL RULES AND REGULATIONS THERE TO APPURTENANT.

MORRIS & RITCHIE ASSOCIATES, INC.
Civil / Structural Engineers
1220-B East Joppa Rd, Suite 400K
Towson, Maryland 21286
410-821-1690
410-821-1748 Fax

BRIAN E. SWERLING
16545
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER
09/07/23

verizon

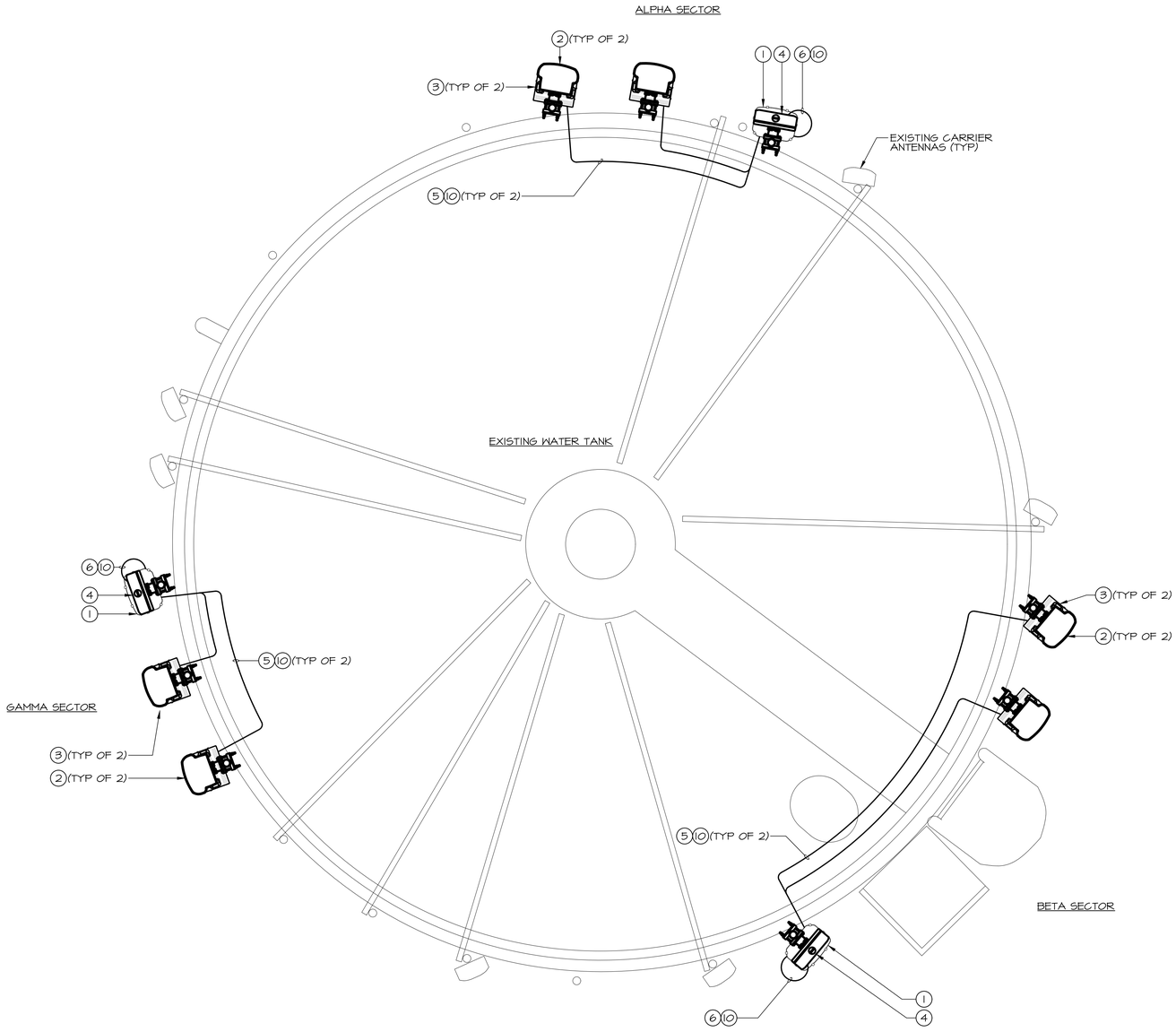
ALDRIDGE NT - 56 L-SUB6 - CARRIER ADD
325 SANGRASS DRIVE
CHARLES TOWN, WV 25414 (JEFFERSON COUNTY)

REVISIONS:		
NO.	DESCRIPTION	DATE
	LANDLORD COMMENTS	09/07/23
	PERMIT DWGS	08/29/23

DESIGNED BY:	BES
DRAWN BY:	DNT/JRP
REVIEWED BY:	BES
PROJECT NO:	19214.1205
DATE:	06/06/2023

TITLE:
Structural Details & Notes

SHEET:
S-2



7 8 9 11 ANTENNA SECTOR PART PLAN

SCALE: 1/2" = 1'-0"

DRAWING NOTES

1. EXISTING VERIZON WIRELESS 6-OVP RAYCAP DISTRIBUTION BOX MOUNTED AT EACH ANTENNA SECTOR/ EQUIPMENT SHELTER TO REMAIN.
2. VERIZON WIRELESS PROVIDED AND CONTRACTOR INSTALLED ANTENNA MOUNTED AT EACH ANTENNA SECTOR. REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL MOUNTING INFORMATION.
3. PROPOSED LOCATION OF VERIZON WIRELESS REMOTE RADIO HEAD MOUNTED AT EACH ANTENNA SECTOR. REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL MOUNTING INFORMATION.
4. VERIZON WIRELESS PROVIDED AND CONTRACTOR INSTALLED MMU ANTENNA/RADIO MOUNTED AT EACH ANTENNA SECTOR. REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL MOUNTING INFORMATION.
5. CONTRACTOR SHALL EXTEND NEW JUMPER CABLE FROM RAYCAP MAIN DISTRIBUTION BOX TO PROPOSED REMOTE RADIO HEAD FOR DC POWER AND FIBER. CONTRACTOR SHALL COORDINATE JUMPER CABLE SIZE AND QUANTITY PRIOR TO START OF WORK. REFER TO JUMPER CABLE SCHEDULE, SHEET E-3 FOR ADDITIONAL INFORMATION.
6. CONTRACTOR SHALL EXTEND NEW JUMPER CABLE FROM RAYCAP MAIN DISTRIBUTION BOX TO PROPOSED MMU ANTENNA/RADIO FOR DC POWER AND FIBER. CONTRACTOR SHALL COORDINATE JUMPER CABLE SIZE AND QUANTITY PRIOR TO START OF WORK. REFER TO JUMPER CABLE SCHEDULE, SHEET E-3 FOR ADDITIONAL INFORMATION.
7. CONTRACTOR SHALL COORDINATE WITH VERIZON WIRELESS CONSTRUCTION MANAGER THAT THERE ARE AMPLE SPARE FIBER PAIRS TO SUPPLY PROPOSED MMU ANTENNA/RADIO. IN THE EVENT THERE ARE NOT AMPLE SPARE FIBER PAIRS, CONTRACTOR SHALL EXTEND 96-STRAND FIBER CABLE FROM EXISTING TELCO DEMARC LOCATION TO FIBER TERMINATION POINT IN EXISTING VERIZON WIRELESS EQUIPMENT SHELTER AT GRADE. NEW CABLE SHALL BE EXTENDED IN EXISTING TELCO RACEWAY.
8. REFER TO SHEET E-2 FOR ANTENNA GROUNDING DIAGRAM AND DETAIL.
9. ALL ITEMS ARE EXISTING TO REMAIN UNLESS NOTED OTHERWISE.
10. ROUTE PROPOSED CABLES ACROSS SAME PATH AS EXISTING ANTENNA CABLES TO FARTHEST EXTENT POSSIBLE.
11. CONTRACTOR SHALL INSTALL ONE (1) POWER SHIFT SHELF, ONE (1) CONTROLLER, FIVE (5) BOOST MODULES, FIVE (5) BYPASS MODULES, AND ONE (1) RS485 CARD WITHIN EXISTING VERIZON WIRELESS EQUIPMENT SHELTER.

0 1 2 4 6

SCALE: 1/2"=1'-0"

TEI

TELEGENT ENGINEERING INC.
2216 Commerce Road, Suite 1
Forest Hill, MD 21050
410-692-5816
www.tel-eng.com

TIMOTHY J. SCHMIDT
REGISTERED
NO. 22959
STATE OF VIRGINIA
PROFESSIONAL ENGINEER

09/07/2023

verizon

ALDRIDGE MT - 5G L-SUB6 - CARRIER ADD

525 SAWGRASS DRIVE, CHARLES TOWN,
JEFFERSON COUNTY, WEST VIRGINIA 25414

REVISIONS:		
NO.	DESCRIPTION	DATE
	LANDLORD COMMENTS	09/07/23
	PERMIT DWGS.	08/24/23

LAST REV.:

PROJECT NO: 23007Z

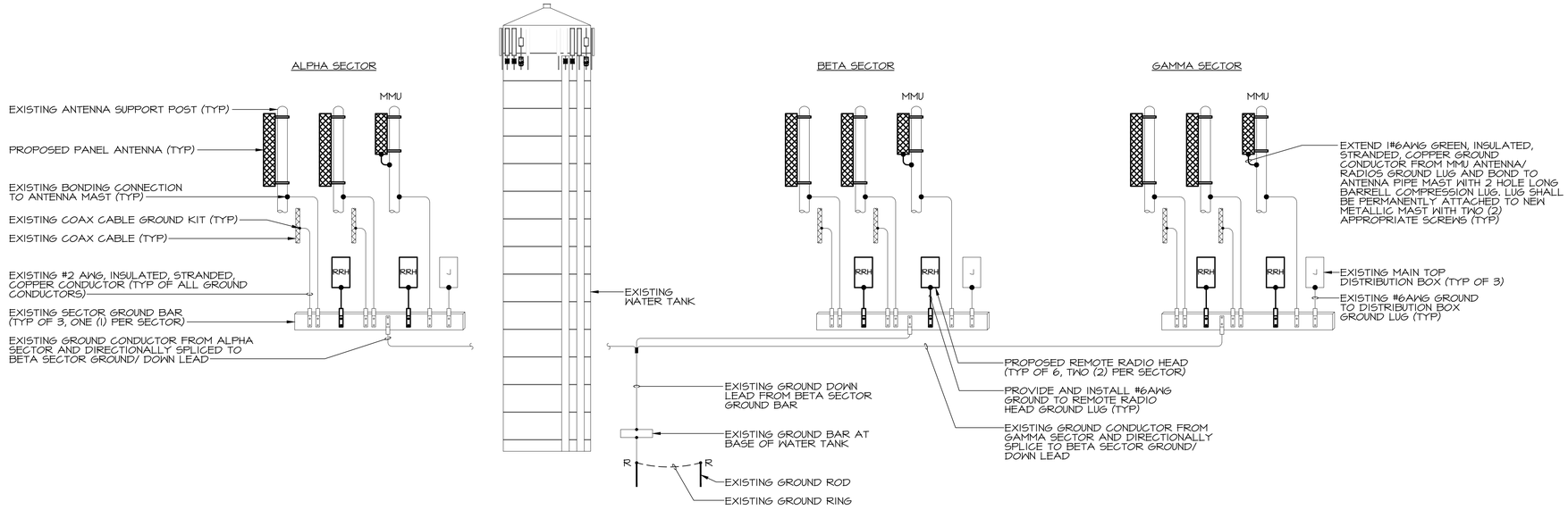
DATE: AUG. 29, 2023

SCALE: AS NOTED

TITLE:
ANTENNA
PART PLAN
AND NOTES

SHEET:
E-1

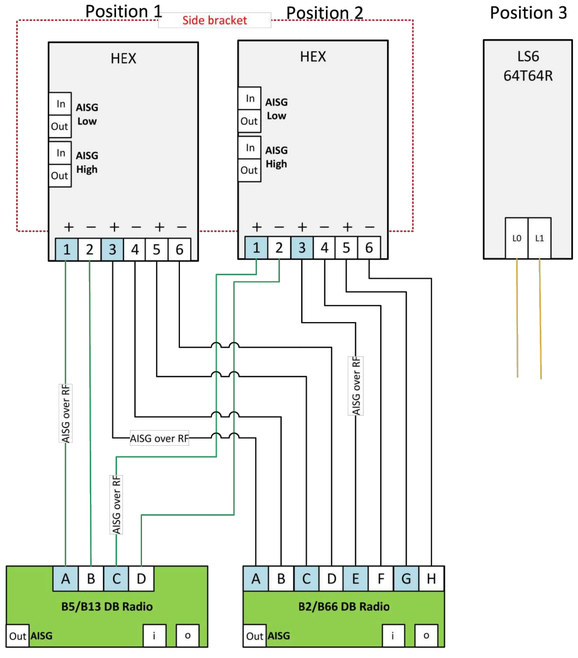
TEI#23007Z

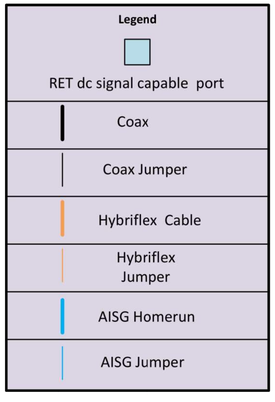


ANTENNA GROUNDING SYSTEM DIAGRAM

NO SCALE

NOTE: GROUNDING SHOWN IN THE ABOVE DIAGRAM IS A TECHNICAL GROUND NOT A NEC 250 SERVICE GROUND.





Notes:

- **Antenna view is from the back of the antennas**
- **Colors of connection are just for clarification**
- **Size of objects in drawing doesn't reflect equipment true dimensions**
- **1 OVP box will feed all sectors (For exact CPRI connections please refer to BBU plumbing)**

Sector design

Shelter

ANTENNA PLUMBING DIAGRAM

NO SCALE (TYP OF ALL SECTORS)

TEI

TELEGENT ENGINEERING INC.
2216 Commerce Road, Suite 1
Forest Hill, MD 21050
410-692-5816
www.tel-eng.com

TIMOTHY J. SCHMIDT
REGISTERED
No. 22959
STATE OF VIRGINIA
PROFESSIONAL ENGINEER

09/07/2023

verizon

ALDRIDGE NT - 5G L-SUB6 - B6 - CARRIER ADD

325 SAWGRASS DRIVE, CHARLES TOWN, JEFFERSON COUNTY, WEST VIRGINIA 25414

REVISIONS:		
NO.	DESCRIPTION	DATE
	LANDLORD COMMENTS	09/07/23
	PERMIT DWGS.	08/29/23

LAST REV.:
PROJECT NO: 23007Z
DATE: AUG. 29, 2023
SCALE: AS NOTED

TITLE:
DIAGRAMS

SHEET:
E-2

TEI#23007Z

COLOR CODE MATRIX

Azimuth (1) Alpha					
Cell (850 CDMA)	Red				
PCS2 (1900 LTE)	Pink	Red	Pink		
700 LTE	Lt. Green	Red	Lt. Green		
850 LTE	Purple	Red	Purple		
2100 LTE	Orange	Red	Orange		
High Band Dual Band (Shared Lines)	Orange	Pink	Red	Pink	Orange
Low Band Dual Band (Shared Lines)	Purple	Lt. Green	Red	Lt. Green	Purple
5G 28GHz	Brown	Red	Brown		
5G 39GHz	Blue	Red	Blue		
LAA	Gray	Red	Gray		
CBRS	White	Red	White		
L-Sub6 (C-Band)	Red	Red	Red		

Azimuth (2) Beta					
Cell (850 CDMA)	Blue				
PCS2 (1900 LTE)	Pink	Blue	Pink		
700 LTE	Lt. Green	Blue	Lt. Green		
850 LTE	Purple	Blue	Purple		
2100 LTE	Orange	Blue	Orange		
High Band Dual Band (Shared Lines)	Orange	Pink	Blue	Pink	Orange
Low Band Dual Band (Shared Lines)	Purple	Lt. Green	Blue	Lt. Green	Purple
5G 28GHz	Brown	Blue	Brown		
5G 39GHz	Blue	Blue	Blue		
LAA	Gray	Blue	Gray		
CBRS	White	Blue	White		
L-Sub6 (C-Band)	Red	Blue	Red		

Azimuth (3) Gamma					
Cell (850 CDMA)	Yellow				
PCS2 (1900 LTE)	Pink	Yellow	Pink		
700 LTE	Lt. Green	Yellow	Lt. Green		
850 LTE	Purple	Yellow	Purple		
2100 LTE	Orange	Yellow	Orange		
High Band Dual Band (Shared Lines)	Orange	Pink	Yellow	Pink	Orange
Low Band Dual Band (Shared Lines)	Purple	Lt. Green	Yellow	Lt. Green	Purple
5G 28GHz	Brown	Yellow	Brown		
5G 39GHz	Blue	Yellow	Blue		
LAA	Gray	Yellow	Gray		
CBRS	White	Yellow	White		
L-Sub6 (C-Band)	Red	Yellow	Red		

JUMPER CABLE SCHEDULE

CABLE STRUCTURE	APPLICATION
1x1	SAMSUNG LB REMOTE RADIO HEAD, SAMSUNG LAA RADIO UNIT
1x2	SAMSUNG HB REMOTE RADIO HEAD, SAMSUNG CBRS RADIO UNIT
1x3	SAMSUNG C-BAND REMOTE RADIO HEAD

DETAIL - JUMPER CABLE SCHEDULE
NO SCALE

COLOR CODE MATRIX

Azimuth (4) Delta					
Cell (850 CDMA)	Orange				
PCS2 (1900 LTE)	Pink	Orange	Pink		
700 LTE	Lt. Green	Orange	Lt. Green		
850 LTE	Purple	Orange	Purple		
2100 LTE	Orange	Orange	Orange		
High Band Dual Band (Shared Lines)	Orange	Pink	Orange	Pink	Orange
Low Band Dual Band (Shared Lines)	Purple	Lt. Green	Orange	Lt. Green	Purple
5G 28GHz	Brown	Orange	Brown		
5G 39GHz	Blue	Orange	Blue		
LAA	Gray	Orange	Gray		
CBRS	White	Orange	White		
L-Sub6 (C-Band)	Red	Orange	Red		

Azimuth (5) Epsilon					
Cell (850 CDMA)	White				
PCS2 (1900 LTE)	Pink	White	Pink		
700 LTE	Lt. Green	White	Lt. Green		
850 LTE	Purple	White	Purple		
2100 LTE	Orange	White	Orange		
High Band Dual Band (Shared Lines)	Orange	Pink	White	Pink	Orange
Low Band Dual Band (Shared Lines)	Purple	Lt. Green	White	Lt. Green	Purple
5G 28GHz	Brown	White	Brown		
5G 39GHz	Blue	White	Blue		
LAA	Gray	White	Gray		
CBRS	White	White	White		
L-Sub6 (C-Band)	Red	White	Red		

Azimuth (6) Zeta					
Cell (850 CDMA)	Gray				
PCS2 (1900 LTE)	Pink	Gray	Pink		
700 LTE	Lt. Green	Gray	Lt. Green		
850 LTE	Purple	Gray	Purple		
2100 LTE	Orange	Gray	Orange		
High Band Dual Band (Shared Lines)	Orange	Pink	Gray	Pink	Orange
Low Band Dual Band (Shared Lines)	Purple	Lt. Green	Gray	Lt. Green	Purple
5G 28GHz	Brown	Gray	Brown		
5G 39GHz	Blue	Gray	Blue		
LAA	Gray	Gray	Gray		
CBRS	White	Gray	White		
L-Sub6 (C-Band)	Red	Gray	Red		

DETAIL - COLOR CODING
NO SCALE

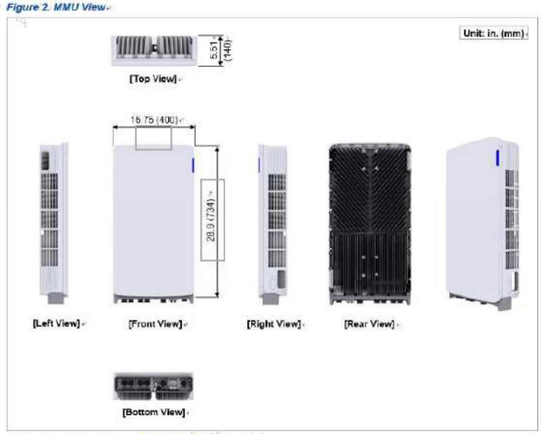
C Band Verizon MMU Gen.2 (MT6413)

Table 1. Specification

Item		MT6413-77A
Air Technology		NR
Duplex		TDD
OFR		3,700 to 3,980 MHz
IBW		200 MHz
OBW		200 MHz
Carrier Configuration	Ch. BW	NR 20/40/60/80/100 MHz
	# of carriers (per unit)	2CC
TRX Path Configuration		64T64R
Antenna Configuration		4V16H 192 AE (6 x 1 sub-array)
Conductive Power		320 W
MIMO Capacity		DL 16L, UL 16RX (8L)
Function Split		Opt. 7-2x
Optic Interface		20 km, 25 Gbps × 4 ports
Input Voltage		-48 V DC (-36 to -58 V DC)
Power Consumption [1]		• 882 W @ 40 % room temp • 1,260 W @ 100 % room temp • 1,299 W @ 100 % all temp
Volume / Dimension (W x H x D)		41.1 L / 15.75 x 28.9 x 5.51 in. (400 x 734 x 140 mm)
Weight		57.32 lb (26 kg) or less (without a Bracket)
Operating Temperature [1]		-104 °F to +131 °F (-40 °C to +55 °C), (without solar load)
Cooling Schema		Natural Convection
Installation		Pole, Wall
Operating Humidity [1]		5 to 100 % RH (non-condensing, not to exceed 30 g/m³ absolute humidity)
Altitude		Telcordia GR-63-CORE, Issue 5, Section 4.1.3
Noise		Telcordia GR-487-CORE, Issue 5, Section 3.34 (45 dBA)
Ingress Protection Rating		IEC 60529 (IP65)
Salt Fog / Salt Spray		Telcordia GR-487-CORE, Issue 5, Section 3.40.1
Wind Resistance		Telcordia GR-487-CORE, Issue 5, Section 3.36
Earthquake		Telcordia GR-63-CORE, Issue 5, Section 4.4.1 (Zone 4)
Vibration		Telcordia GR-63-CORE, Issue 5, Section 4.4.4 / 4.4.5
EMC		FCC Title 47 CFR Part 15 Subpart B
Safety		UL 62368-1
RF		FCC Title 47, CFR Part 27

[1] These values is predictive from simulation. Measurement data can be changed by +/- 10% when development is completed.

Figure 2. MMU View



1) Height dimension is smaller than Gen.1
It occur to New bracket code for Gen.2 MMU.
Gen.1 Bracket cannot be installed at Gen.2 because of the distance between Upper bracket and Lower bracket.

2) The Eye bolt is removed.
We can use the Bracket for hoisting instead of the eye bolt.

DETAIL - SAMSUNG C-BAND MMU
NO SCALE (MODEL #MT6413-77A)

Circuit Label/Name of Test	Type of Test	Launch Point	Testing Cables
5GmmW-A-0-Dmarc to RRH	Duplex Run	End of Jumper at SC connector at Demarc	150M Launch Cable-150M-15m Loop Back cable
CBRS-A-0-EQUIP to RRH	Bidi Run	End of Jumper at Equip connection	150M Launch Cable-150M Receive Cable
CBRS-A-1-EQUIP to RRH	Bidi Run	End of Jumper at Equip connection	150M Launch Cable-150M Receive Cable
LAA-A-0-EQUIP to RRH	Bidi Run	End of Jumper at Equip connection	150M Launch Cable-150M Receive Cable
HB-A-0-EQUIP to RRH	Bidi Run	End of Jumper at Equip connection	150M Launch Cable-150M Receive Cable
HB-A-1-EQUIP to RRH	Bidi Run	End of Jumper at Equip connection	150M Launch Cable-150M Receive Cable
LB-A-0-EQUIP to RRH	Bidi Run	End of Jumper at Equip connection	150M Launch Cable-150M Receive Cable
CBand-A-0-EQUIP to RRH	Bidi Run	End of Jumper at Equip connection	150M Launch Cable-150M Receive Cable
CBand-A-1-EQUIP to RRH	Bidi Run	End of Jumper at Equip connection	150M Launch Cable-150M Receive Cable
CBand-A-2-EQUIP to RRH NA on RT8808-77A	Bidi Run	End of Jumper at Equip connection	150M Launch Cable-150M Receive Cable
FDMIMO-A-0-EQUIP to RRH	Bidi Run	End of Jumper at Equip connection	150M Launch Cable-150M Receive Cable
FDMIMO-A-1-EQUIP to RRH	Bidi Run	End of Jumper at Equip connection	150M Launch Cable-150M Receive Cable
FDMIMO-A-2-EQUIP to RRH (if required)	Bidi Run	End of Jumper at Equip connection	150M Launch Cable-150M Receive Cable
FDMIMO-A-3-EQUIP to RRH (if required)	Bidi Run	End of Jumper at Equip connection	150M Launch Cable-150M Receive Cable

DETAIL - FIBER LABELING
NO SCALE

TEI
TELEGENT ENGINEERING INC.
2216 Commerce Road, Suite 1
Forest Hill, MD 21050
410-692-5816
www.tel-eng.com

TIMOTHY J. SCHMIDT
REGISTERED
No. 22959
STATE OF VIRGINIA
PROFESSIONAL ENGINEER

09/07/2023

verizon

ALDRIDGE WT - 5G L-SUB6 - CARRIER ADD
525 SAWGRASS DRIVE, CHARLES TOWN,
JEFFERSON COUNTY, WEST VIRGINIA 25414

REVISIONS:		
NO.	DESCRIPTION	DATE
	LANDLORD COMMENTS	09/07/23
	PERMIT DWGS.	08/29/23

LAST REV.:
PROJECT NO: 23007Z
DATE: AUG. 29, 2023
SCALE: AS NOTED

TITLE:
DETAILS

SHEET:
E-3

TEI#23007Z

Proposal/Contract

Project: CTUB Force Main at Kings Crossing Date: 10/5/2023

To: Kristen M. Stolipher, Travis Markley -- CTUB
From: Marcus Folger
Subject: Site work for the above referenced project located in Charles Town, WV.
Note: This estimate is based upon preliminary un-approved plans / information. The final price is contingent upon final design changes, if any.
Plans: This proposal has been prepared based on the following plans and/or other information provided to W.F. Delauter, Inc (WFD) for bidding purposes: Charles Town Utility Board Kings Crossing Subdivision Water Treatment Plant Sludge Forcemain Tie-in plan sheets 1 to 3 dated 7/28/2023 and 8/3/2023 by GD&F.

DUE TO RECENT MARKET CONDITIONS, WE RESERVE THE RIGHT TO IMPLEMENT PRICE INCREASES WE RECEIVE FROM OUR SUPPLIERS.

Bid Total $111,950.00

Stakeout	1	LS
Traffic Control Flagging	1	LS
Remove Pavement at Trench	1	LS
Excavate & Install 8" Steel Casing	68	LF
Install Flowable Concrete Backfill over Casing	68	LF
Temporary Steel Road Plates	1	LS
4" DR18 C900 PVC Sewer Force Main	288	LF
Core / Rechannel Manhole	1	EA
4" Inside Drop Connection	1	EA
Paving Patch 7' W x 37' L x 2” Thick	1	LS

*Deduct $7,000.00 if paving patch is not needed.

Standard Notes & Limitations

1. This proposal will become an attachment to all owner contracts. The scope of work is limited to only those items identified in this proposal.
2. Unless otherwise specified, adjustments to existing utilities are not included.
3. The owner is responsible for the adjustment, relocation and protection of all facilities owned by any utility company.
4. W.F. Delauter & Son, Inc. **(WFD)** will not be responsible for obtaining any permits, engineering, bonds, soils/compaction testing, bituminous testing, concrete testing, or other Quality Control testing unless otherwise noted.

5. If a separate NPDES 20-CP permit is required, assumes the owner will provide and/or transfer permit and utilize a shared SWPPP.
6. Work not completed within 6 months of this proposal date will be subject to an increase.
7. All work assumed performed Monday-Friday, **non-wage rated.**
8. Excavated materials are assumed to be suitable for intended purposes, all excavation (trench/site) assumed for use as compacted backfill.
9. Excludes testing / work associated with, but not limited to asbestos, lead, hazardous, toxic, unsuitable material.
10. Price based on mobilizations as listed in the proposal. Any additional mobilizations or re-mobilizations due to circumstances not directly the fault of W.F. Delauter & Son will be billed on a time and material basis.
11. Bid assumes the site to be unobstructed by any other construction trades until completion of our work.
12. Where the owners employes a monitoring firm for compaction testing, a copy of the results of the tests will be furnished daily to our office in writing, either through fax or email.
13. Until all amounts due hereunder have been paid in full, W.F. Delauter & Son, Inc. has a security interest in all equipment and materials with all the rights of a secured party under the Uniform Commercial Code uncluding, without limitation, the right to take possession without legal process.
14. If W.F. Delauter & Son, Inc. supplies stakeout it requires owner to provide (through their plan engineer) a complete digital design copy (dwg file) of the latest plan set. The owner will provide in writing, a minimum of four control points indicating their physical location with Northing, Easting, and Elevation for each point.
15. Any delays casued by delays in stakeout by others will be billed as an extra.
16. In the event the Owner shall fail to pay, within the time prescribed herein, any sum required to be paid under this Contract, Contractor upon five (5) days written notice to Owner may stop all work required to be performed under the Contract without liability to Owner until such time as payment is received or Contractor may terminate this Contract and recover payment from owner for all work completed and for losses ststained on any materials, machinery, equipment, or tools. Including any reasonable profit, overhead and other damages.
17. A finance charge of 1.5% will be added on all unpaid balances. This is an Annual Percentage Rate of 18%. All fees resulting from the collections of a delinquent account shall be paid by the purchaser.
18. Bi-Monthly estimates with full amount due within 30 days of estimate.
19. There will be zero percent (0%) retainage held on this contract as long as the project moves along within the scheduled and agreed upon dates between the owner and WF Delauter & Son, Inc., as well as all testing results are passing per specification throughout the project. If an issue with the agreed upon schedule and / or the test results arises, the owner will give WF Delauter & Son, Inc. thirty (30) days or until the next progress payment is due to remedy the issue. If the issue is remedied the contract will remain at zero percent (0%) retainage. If the issue is not remedied, the owner may hold up to ten percent (10%) of the full contract value if the contract to date is less than 50% complete and they may hold up to five percent of the total contract (5%) if the contract to date is more than 50% complete. Once the issue is remedied, the owner will release the retainage held on the next progress pay application. The final pay application will be held by the owner until acceptance by the local inspection authority and a walk through has been completed and accepted by the owner which will occur prior to thirty (30) days after the final invoice date, or no later than ninety (90) days after the final invoice date. After the ninetieth (90th) day from the invoice date, the final invoice is due and payable to WF Delauter & Son, Inc., with or without the final walk through with the owner.
20. Owner shall be responsible for Dept. of the Environment Notice of Intent permits on this project. WFD will install all sediment controls per the approved plans. Any changes to the approved sediment control plan by Dept. of Environment or other State or local reviewing agencies will be handled as T&M or Fixed Price Change Order. Once our work is completed and we de-mobilize from the site, WFD will not be responsible for any violations issued for maintenance of the sediment & erosion controls.

21. WF Delauter & Son, Inc. will be indemnified by CTUB for any environmental permit violations unrelated to our contract, or which were not caused by or result from the actions or omissions of WF Delauter & Son, Inc. or its subcontractors, with respect to any claims, damages, penalties, losses, fines and other costs and expenses (including, without limitation, attorney's fees), assessed against and/or incurred by WF Delauter & Son, Inc. as a result of, or in connection with, any such violations. Any fines, penalties or other financial obligations in connection with such violations are the responsibility of the permittee. The permittee will hold WF Delauter & Son, Inc. harmless ofr any liability relation to any such violations, including, without limiation, any liability to the State of local jurisdictions.
22. Work and materials are warranted for a period of (1) One Year from date of acceptance.
23. If the contract is split or stopped / restarted there will be a $4,500 fee due upon restart for restocking of materials, general clerical, estimating and engineering.
24. If WF Delauter has an invoice that is unpaid upon 30 day net terms, we will notify the owner at that time that payment needs to be received within 5 days. If payment is not received, WF Delauter reserves the right to de-mobilize from the project at which time there will be a $10,000 remobilization and project reset fee payable prior to remobilization. WF Delauter also reserves the right to remobilize up to 45 days from date late payment is received.
25. WFD shall not be held liable for any impacts, delays, labor overruns, material overruns and/or cost overruns related to its work due to factors unforeseeable at the time of contracting, including but not limited to, war, terrorism, hostilities, sabotage, revolution, riot, civil commotion, national emergency, epidemic/contagion events, fire, flood, earthquake, force of nature, natural disaster, legislative changes, unavoidable casualties, or by other causes beyond WFD's control. WFD shall further be entitled to a chance order for any and all time and costs associated with said instance(s).
26. Equipment fuel price based on current posted price at bid time. A surcharge may be added to the contract price to reflect fuel price increases.
27. If the Owner initiates a termination of convenience, whereas the Owner terminates the contract with WFD for any reason without cause, WFD shall be entitled to and paid in full for payment of all work in place, subcontractor fees/claims, materials ordered prior to termination, restocking fees, and retainage amounts. If the termination for convenience is initiated prior to 75% of the total project cost / completion, Owner shall pay WFD a 3% termination fee based on the total amount of the contract. If the Owner issues termination for convenience after 75% of the total project cost / completion, owner shall pay WFD a 1% termination fee based on the total mount of the contract. These sums shall be due from the Ownder to WFD at the time of termination for convenience.

Utility Notes & Limitations

1. Includes 8" casing per plan. Per CTUB the bell restraints are not required and are excluded. (if they are required, it will entail bumbing up to 12" casing since bell restaints will not fit in 8" casing; this would be additional cost)
2. Assumes 24-hour curing time for concrerte flow fill. If more time is required, costs may be added.
3. Inspector office trailer excluded.
4. CCTV imaging is excluded.

Exclusions (unless noted otherwise)

Rock or unsuitable material
Test pits
Dewatering
Drying/conditioning of soils
Walls
Temp protection fence

Permanent fence
Concrete work, sidewalks
Hardscaping
Landscaping, plantings
Topsoil respread
Temporary seeding
Permanent seeding
Sodding
Driveways
Signage, pavement marking
Forestation, forest protection
Electrical
Site lighting
Dry utilities: phone, TV, electric, fiber optics, etc
Engineering
As-builts
Temporary by-pass pumping
Permits / removal of gases & liquids
Sewer / water abandonment & permits
Excavate / prep for other trades
Demolition / relocation of buildings or other items
Cleaning up / removal / handling waste & spoils from other contractors
Relocation, protection or adjustment of existing utilities
Sink hole repair
Water truck for dust control
Prevailing wage rates

Unit Prices

1. All rock work is excluded and can be done on time and material basis: blasting, hammering, handling, hauling, stockpiling, blast heave/overshot rock & undershot rock.
2. Dust control – Water Truck w/ Driver @ $125.00/Hr, plus water fee. Minimum 4 hours.

X _____

SIGNATURE OF ACCEPTANCE & DATE

CHARLES TOWN UTILITY BOARD
GD&F ENGINEER'S REPORT
OCTOBER 26, 2023

Charles Town Wastewater Treatment Plant Improvements (R&R Project)

- The Contractor (Alvarez) completed masonry wall and roof construction at the new centrifuge building. The new centrifuge is currently in place inside the building. All piping for new digester blowers and the diffuser piping inside the digester are complete. The new plant influent meter vault has been set in place. The new UV System has been installed and is currently in operation. S&S Electric has begun pulling power, instrumentation and control wiring through ductanks and new electrical building conduits. Alvarez assisted CTUB with cleaning out the last SBR basin.
- The Contractor plans work on finishes at the Centrifuge Building. They also plan to complete influent meter vault installation and begin Plant Drain Pump replacement. S&S plans to install the new emergency generator and continue with wiring.
- The current contract times for final completion is September of 2024. Alvarez reported that per their most recent project schedule, the anticipated final completion date is September 30, 2024, meaning that they continue to makeup time on the schedule.
- There have not been any changes to the work resulting in a change order this month.
- GD&F RPR, Dave Gustkey, continues to be present on site full time and coordinate efforts between Alvarez, CTUB, Specialized and City building inspector personnel.
- GD&F has received 126 submittals to date, all of which have been reviewed and returned. O&M manuals are currently being submitted. 41 requests for information (RFI's) have been answered and 12 Work Change Directives have been issued with one (1) upcoming regarding a high UV channel alarm.
- The next Progress Meeting is scheduled for November 2.
- Alvarez submitted Application for Payment No. 12 in the amount of $895,538.96. This Application has been reviewed and approved by GD&F and CTUB.
- See below for construction progress photos.

Charles Town Water Plant Intake VFD Project

- S&S has completed the wiring and conduit portion of the new VFDs. They are currently waiting on delivery and installation of the new telemetry system (expected delivery is January 2024).

EPA Administrative Order

- GD&F has been assisting CTUB as needed with compliance reports, scheduling and project updates in regard to the EPA Administrative Order. GD&F prepared a detailed construction project schedule update this past month.

Kings Crossing Sewer Tie-in at Water Plant

- GD&F is currently working on finalizing the site plan drawings for the new forcemain and pump station. Mechanical drawings of the recycle line scheduled for this month.



New UV System



New Centrifuge Building

GD&F
GWIN
DOBSON &
FOREMAN
ENGINEERS

VENDOR SORT KEY	DESCRIPTION	FUND	DEPARTMENT	AMOUNT

========== FUND TOTALS ==========	
50 WATER FUND	93,743.66
60 SEWER FUND	99,443.30
GRAND TOTAL:	193,186.96

TOTAL PAGES: 5

APPROVED BY: _____

APPROVED BY: _____

This Packet:	$ 193,186.96
Metlife Inc, check dated 10/11/23:	1,378.69
WV Dept of Transportation, check dated 10/11/23:	7.50
JP & RF Burns Partnership, check dated 10/11/23:	6,981.00
City of Charles Town, check dated 10/11/23:	17,454.95
Corporation of Ranson, check dated 10/11/23:	4,170.74
Mark D Hobbs, check dated 10/20/23:	28.60
City of Ranson, CIF check dated 10/26/23:	29,250.00
Total:	$ 252,458.44

Note:

Highlighted are for the R&R Project;

Highlighted are for the Collection System Project;

Highlighted is to be reimbursed with Capacity Improvement Fees;

Highlighted is to be reimbursed with Water Surety Account

VENDOR SORT KEY	DESCRIPTION	FUND	DEPARTMENT		AMOUNT
STEPTOE & JOHNSON PLLC	GENERAL ENVIRONMENTAL	WATER FUND	WATER		6,000.00
	GENERAL ENVIRONMENTAL	SEWER FUND	SEWER		5,015.00
				TOTAL:	11,015.00
GERALD TAYLOR CO., INC.	PUMP / TRANSPORT	WATER FUND	WATER		583.17
	PUMP / TRANSPORT	WATER FUND	WATER		1,123.05
	PUMP / TRANSPORT	WATER FUND	WATER		190.99
	SUPERVAC	SEWER FUND	SEWER		2,472.08
	PUMP / TRANSPORT	SEWER FUND	SEWER		741.51
	TRANSPORT	SEWER FUND	SEWER		953.37
	SUPERVAC	SEWER FUND	SEWER		1,605.48
				TOTAL:	7,669.65
THE CI THORNBURG CO, INC.	OMNI H2 1G AMR TRPL HYDRNT	WATER FUND	WATER		5,027.22
	5/8"X3/4" SRII TRPL	WATER FUND	WATER		5,217.00
	CHLORINE	WATER FUND	WATER		2,745.00
				TOTAL:	12,989.22
TYLER TECHNOLOGIES	CARD READERS	WATER FUND	WATER		529.00
	CARD READERS	WATER FUND	WATER		180.00
	CARD READERS	SEWER FUND	SEWER		529.00
	CARD READERS	SEWER FUND	SEWER		180.00
				TOTAL:	1,418.00
HD SUPPLY INC	HSE SHTFF, WSHDWN NZZL	SEWER FUND	SEWER		229.24
	TREATMENT PLANT LOG BOOK	SEWER FUND	SEWER		52.87
	TREATMENT PLANT LOG BOOK	SEWER FUND	SEWER		52.87
				TOTAL:	334.98
WASTE MANAGEMENT OF WEST VIRGINIA, INC	29-14111-13004	SEWER FUND	SEWER		673.06
				TOTAL:	673.06
WV BUREAU OF EMPLOYMENT PROGRAMS	BENEFITS FOR QTR 9/30/23	WATER FUND	WATER		9.40
	BENEFITS FOR QTR 9/30/23	SEWER FUND	SEWER		9.40
				TOTAL:	18.80
WV AMERICAN WATER	1028-210051052424	SEWER FUND	SEWER		45.12
	1028-210051036613	SEWER FUND	SEWER		45.12
				TOTAL:	90.24

VENDOR SORT KEY	DESCRIPTION	FUND	DEPARTMENT	AMOUNT
PACE ANALYTICAL SERVICES, LLC	TESTING: WV0022349	SEWER FUND	SEWER	87.90
	TESTING: JCPSD IU04 QRTLY	SEWER FUND	SEWER	114.80
	TESTING: CT QRTLY	SEWER FUND	SEWER	314.30
	TESTING: WV0022349/IU02	SEWER FUND	SEWER	356.80
	TESTING: TUSC WKLY	SEWER FUND	SEWER	135.80
	TESTING: TUSC WKLY	SEWER FUND	SEWER	135.80
	TESTING: CT WKLY	SEWER FUND	SEWER	225.70
	TESTING: CT QRTLY SLUDGE	SEWER FUND	SEWER	354.90
			TOTAL:	1,726.00
PARKSON CORPORATION	GREASE, CONNECTOR, FITTING	SEWER FUND	SEWER	470.99
			TOTAL:	470.99
PETTY CASH @ 661 S GEORGE ST	PETTY CASH- MISC RECEIPTS	WATER FUND	NON-DEPARTMENTAL	52.50
	PETTY CASH- MISC RECEIPTS	WATER FUND	WATER	1.76
	PETTY CASH- MISC RECEIPTS	WATER FUND	WATER	16.65
	PETTY CASH- MISC RECEIPTS	SEWER FUND	NON-DEPARTMENTAL	52.50
	PETTY CASH- MISC RECEIPTS	SEWER FUND	SEWER	1.75
	PETTY CASH- MISC RECEIPTS	SEWER FUND	SEWER	54.56
	PETTY CASH- MISC RECEIPTS	SEWER FUND	SEWER	16.97
	PETTY CASH- MISC RECEIPTS	SEWER FUND	SEWER	42.79
			TOTAL:	239.48
PRECISION PUMP & VALVE SERVICE, INC.	VRTCL TURBINE PUMP	WATER FUND	NON-DEPARTMENTAL	19,926.31
	2" UPPRGUIDE RAIL BRCKT SS	SEWER FUND	SEWER	313.00
			TOTAL:	20,239.31
PUMPMAN PITTSBURGH	O-RNG, VACUUM PRMNG HSNG	SEWER FUND	SEWER	106.00
			TOTAL:	106.00
QUALITY FENCE & DECK CO	RMV DMGD FENCE FOR TREE GU	SEWER FUND	SEWER	850.00
	RPR DMGD FENCE	SEWER FUND	SEWER	2,500.00
			TOTAL:	3,350.00
RAILROAD MGMT CO, IV LLC	CT, WATER PIPE LICENSE FEE	WATER FUND	WATER	640.59
			TOTAL:	640.59
RK & K ENGINEERS	TO22 GRNFLD FRC MN UPGRDS	SEWER FUND	NON-DEPARTMENTAL	1,304.30
			TOTAL:	1,304.30
ROBERTS OXYGEN COMPANY, INC.	YEARLY RENTAL RENEWAL	WATER FUND	WATER	385.00
	YEARLY RENTAL RENEWAL	WATER FUND	WATER	1,320.00
			TOTAL:	1,705.00
ROSS H BARE	WENDY'S PS	SEWER FUND	SEWER	344.58
	WARADMIRAL PS	SEWER FUND	SEWER	120.00
	TWWTP	SEWER FUND	SEWER	2,634.99
	CTWWTP INFLNT PMP	SEWER FUND	SEWER	360.00
	WENDY'S PS	SEWER FUND	SEWER	240.00
			TOTAL:	3,699.57
SHENANDOAH SALES & SERVICE, INC.	SEWER VEHICLE SERVICE	SEWER FUND	SEWER	342.36
	SEWER VEHICLE SERVICE	SEWER FUND	SEWER	190.02
	SEWER VEHICLE SERVICE	SEWER FUND	SEWER	532.00
			TOTAL:	1,064.38

VENDOR SORT KEY	DESCRIPTION	FUND	DEPARTMENT	AMOUNT
			TOTAL:	194.04
FRONTIER COMMUNICATIONS	304-876-9970-121914-4	WATER FUND	WATER	121.31
	304-876-2120-111514-4	WATER FUND	WATER	121.31
			TOTAL:	242.62
GUTTMAN ENERGY	W/E 10/08/23	WATER FUND	WATER	621.23
	W/E 10/15/23	WATER FUND	WATER	885.30
	W/E 10/22/23	WATER FUND	WATER	514.30
	W/E 10/08/23	SEWER FUND	SEWER	1,320.57
	W/E 10/08/23	SEWER FUND	SEWER	38.66
	W/E 10/15/23	SEWER FUND	SEWER	692.16
	W/E 10/22/23	SEWER FUND	SEWER	946.18
			TOTAL:	5,018.40
GANNETT FLEMING VALUATION & RATE CONSU	WA & WW COST OF SVC STUDY	WATER FUND	WATER	1,310.00
	WA & WW COST OF SVC STUDY	SEWER FUND	SEWER	130.00
			TOTAL:	1,440.00
GASKINS SERVICES LLC	3 LOADS TOPSOIL	WATER FUND	WATER	1,050.00
			TOTAL:	1,050.00
GWIN DOBSON & FOREMAN INC	WWTP UPGRADES	SEWER FUND	NON-DEPARTMENTAL	15,346.25
	WWTP UPGRADES	SEWER FUND	NON-DEPARTMENTAL	3,386.90
	WW RETAINER SVCS	SEWER FUND	SEWER	390.00
			TOTAL:	19,123.15
INWOOD QUARRY, INC.	C1 & I8 PICKUPS: 10/16/23	WATER FUND	WATER	418.23
	C1 & I8 PICKUPS: 10/16/23	WATER FUND	WATER	418.22
	C1 & I8 PICKUPS: 10/16/23	SEWER FUND	SEWER	305.14
			TOTAL:	1,141.59
JEFFERSON PUBLISHING COMPANY	10/4 & 10/11 ADS: FOR BIDS	SEWER FUND	NON-DEPARTMENTAL	132.14
			TOTAL:	132.14
KAY CASTO & CHANEY PLLC	GENERAL: THRU 9/30/23	WATER FUND	WATER	1,235.00
	GENERAL: THRU 9/30/23	SEWER FUND	SEWER	1,250.00
			TOTAL:	2,485.00
J.C. KUNKLE & ASSOCIATES, A.C.	PROFF SVCS: 9/01 - 10/16/2	WATER FUND	WATER	2,050.00
	PROFF SVCS: 9/01 - 10/16/2	SEWER FUND	NON-DEPARTMENTAL	200.00
	PROFF SVCS: 9/01 - 10/16/2	SEWER FUND	NON-DEPARTMENTAL	200.00
	PROFF SVCS: 9/01 - 10/16/2	SEWER FUND	SEWER	2,050.00
			TOTAL:	4,500.00
MCKINNEY'S AUTO REPAIR	SEWER VEHICLE SERVICE	SEWER FUND	SEWER	139.04
	CRANE TRUCK SERVICE	SEWER FUND	SEWER	488.24
			TOTAL:	627.28
MISS UTILITY OF WV, INC.	MESSAGE FEES: SEPT	WATER FUND	WATER	155.40
	MESSAGE FEES: SEPT	SEWER FUND	SEWER	155.40
			TOTAL:	310.80
THOMAS NALLS	SEPT TANK LOT RENT	WATER FUND	NON-DEPARTMENTAL	3,868.15
			TOTAL:	3,868.15

VENDOR SORT KEY	DESCRIPTION	FUND	DEPARTMENT	AMOUNT
AUTOZONE	DEERFIELD PLNT GNRTR	SEWER FUND	SEWER	120.99
	WENDYS PS GNRTR BTTRY	SEWER FUND	SEWER	154.99
			TOTAL:	275.98
BIEDLER'S ELECTRIC MOTOR REPAIR, INC.	HNTFLD PS PMP REPAIR	SEWER FUND	SEWER	4,877.70
	CTWWTP INFLNTPMP RPR	SEWER FUND	SEWER	2,832.60
			TOTAL:	7,710.30
CHARLES TOWN SEWER	SEPT FUNDING	SEWER FUND	NON-DEPARTMENTAL	16,277.47
			TOTAL:	16,277.47
CHARLES TOWN WATER	SEPT FUNDING	WATER FUND	NON-DEPARTMENTAL	11,039.13
			TOTAL:	11,039.13
CORE & MAIN	10X1/8 FLG ACC SET	WATER FUND	WATER	99.12
	PIPE,MJTEE,MJ90,CLNOUTPLG,	WATER FUND	WATER	6,974.68
	HYMAX GRIP CPLG	WATER FUND	WATER	1,137.70
	MTRPTBLLT,BNDFPXPJCTS,CRBB	WATER FUND	WATER	1,161.72
	2-1/2X2 MNSTXMIP HYD ADAPT	WATER FUND	WATER	84.48
	MTR PIT BULLET	WATER FUND	WATER	1,320.00
	VBHC74-15W-11-44NL 1" SETT	WATER FUND	WATER	629.18
	L14-33NL 3/4 90BEND FIPXPJ	WATER FUND	WATER	224.58
	L14-33NL 3/4 90BEND FIPXPJ	WATER FUND	WATER	449.16
	BELL HARNESS	WATER FUND	WATER	467.88
	PIPE,MJTEE,MJ90,CLNOUTPLG,	SEWER FUND	SEWER	712.95
	PVC SDR35 SWR	SEWER FUND	SEWER	1,207.20
			TOTAL:	14,468.65
CORNET INC	HYDRNT 1197-236 RPR UPPRBR	WATER FUND	WATER	700.00
			TOTAL:	700.00
COYNE CHEMICAL	CP-837, SDM HYPCHLRT 15%	WATER FUND	WATER	2,833.18
	AMMONIUM SULFATE 40% NSF	WATER FUND	WATER	1,586.00
	CMC 150	SEWER FUND	SEWER	3,808.00
	ZETAG 8868 FS	SEWER FUND	SEWER	10,225.89
	CES PACL 2040	SEWER FUND	SEWER	3,444.00
			TOTAL:	21,897.07
CUMMINS, INC	DEMORY FARMS PS	SEWER FUND	SEWER	1,759.10
			TOTAL:	1,759.10
DELL MARKETING L.P.	OPTIFLEX SMALL FORM FACTOR	WATER FUND	WATER	1,850.76
	OPTIFLEX SMALL FORM FACTOR	SEWER FUND	SEWER	1,850.76
			TOTAL:	3,701.52
DEWBERRY ENGINEERS INC	TO4 VLV ASSMNT PRGM DVLPMN	WATER FUND	NON-DEPARTMENTAL	2,720.00
	TO4 VLV ASSMNT PRGM DVLPMN	WATER FUND	NON-DEPARTMENTAL	3,415.00
			TOTAL:	6,135.00
WV DEPT OF HEALTH & HUMAN SERVICES	FLOURIDE TEST	WATER FUND	WATER	15.00
			TOTAL:	15.00
EAST MOUNTAIN HEALTH PHYSICIANS, INC	D.MOLER& R.RIENHART VACCIN	WATER FUND	WATER	320.00
			TOTAL:	320.00
ERA	pH 577	SEWER FUND	SEWER	194.04

TTHM and HAA5 Reporting
October 26, 2023

		Tuscawilla HAA	Tuscawilla THM	Boundary HAA	Boundary THM	Moose HAA	Moose THM	200 N West HAA- as of 2nd qtr 2023 **39 North Water Street**	200 N West THM as of 2nd qtr 2023 **39 North Water Street**
1st 2019		29.5	23.4	21.2	15.6	21.8	20.5	29.9	11.2
2nd 2019		68.5	69.2	51.6	48.6	61.8	67.3	40.5	30.6
3rd 2019		84.2	218	72.2	100	58.8	137	91	79.1
4th 2019		78.5	62.8	81	55.4	106	92.7	49.1	31.6
1st 2020		21.1	20	20.7	17.2	25.2	21.8	23.6	15.9
2nd 2020		48.7	47.2	47.2	23.5	42.8	29.2	42.4	27.5
3rd 2020		90.6	76.5	97.1	81	10.6	78.6	90.2	82.3
4th 2020		21.3	51.6	24.8	36.4	15.2	47.2	29.2	30.3
1st 2021		13.4	14.2	12.0	13.5	15.7	14.1	22.4	9.5
2nd 2021		30.7	35.2	67.1	42.2	29.9	31.5	46.8	49.6
3rd 2021		62.8	57.0	62.3	57.0	25.3	59.0	38.5	53.0
4th 2021		28.0	33.5	26.0	34.4	15.0	34.2	34.0	33.1
1st 2022		20.0	14.0	20.0	13.0	15.0	14.0	16.0	14.0
2nd 2022		44.0	37.0	34.0	35.0	38.0	34.0	49.0	27.0
3rd 2022		0.0	89.0	60.0	84.0	5.0	95.0	1.0	84.0
4th 2022		2.0	30.0	28.0	33.0	34.0	32.0	7.0	30.0
1st 2023		2.6	20.8	26.5	26.0	15.2	22.5	16.7	27.5
2nd 2023		7.0	47.0	46.6	56.2	39.9	50.5	32.4	54.1
3rd 2023		0.0	73.0	39.4	71.6	12.4	74.8	17.9	71.8
3rd qtr 2020 to 2nd qtr 2021	Averag e	39.0	44.4	50.3	43.3	17.9	42.9	47.2	42.9
	MCL	60	80	60	80	60	80	60	80
4th qtr 2020 to 3rd qtr 2021	Averag e	32.1	39.5	41.6	37.3	21.5	38.0	34.2	35.6
	MCL	60	80	60	80	60	80	60	80
1st qtr 2021 to 4th qtr 2021	Averag e	33.7	35.0	41.9	36.8	21.5	34.7	35.4	36.3
	MCL	60	80	60	80	60	80	60	80
2nd qtr 2021 to 1st qtr 2022	Averag e	35.4	34.9	43.9	36.7	21.3	34.7	33.8	37.4
	MCL	60	80	60	80	60	80	60	80
3rd qtr 2021 to 2nd qtr 2022	Averag e	38.7	35.4	35.6	34.9	23.3	35.3	34.4	31.8
	MCL	60	80	60	80	60	80	60	80
4th qtr 2021 to 3rd qtr 2022	Averag e	23.0	43.4	35.0	41.6	18.3	44.3	25.0	39.5
	MCL	60	80	60	80	60	80	60	80
1st qtr 2022 to 4th qtr 2022	Averag e	16.5	42.5	35.5	41.3	23.0	43.8	18.3	38.8
	MCL	60	80	60	80	60	80	60	80
2nd qtr 2022 to 1st qtr 2023	Averag e	12.2	44.2	37.1	44.5	23.1	45.9	18.4	42.1
	MCL	60	80	60	80	60	80	60	80
3rd qtr 2022 to 2nd qtr 2023	Averag e	2.9	46.7	40.3	49.8	23.5	50.0	14.3	48.9
	MCL	60	80	60	80	60	80	60	80
4th qtr 2022 to 3rd qtr 2023	Averag e	2.9	42.7	35.1	46.7	25.4	45.0	18.5	45.9
	MCL	60	80	60	80	60	80	60	80