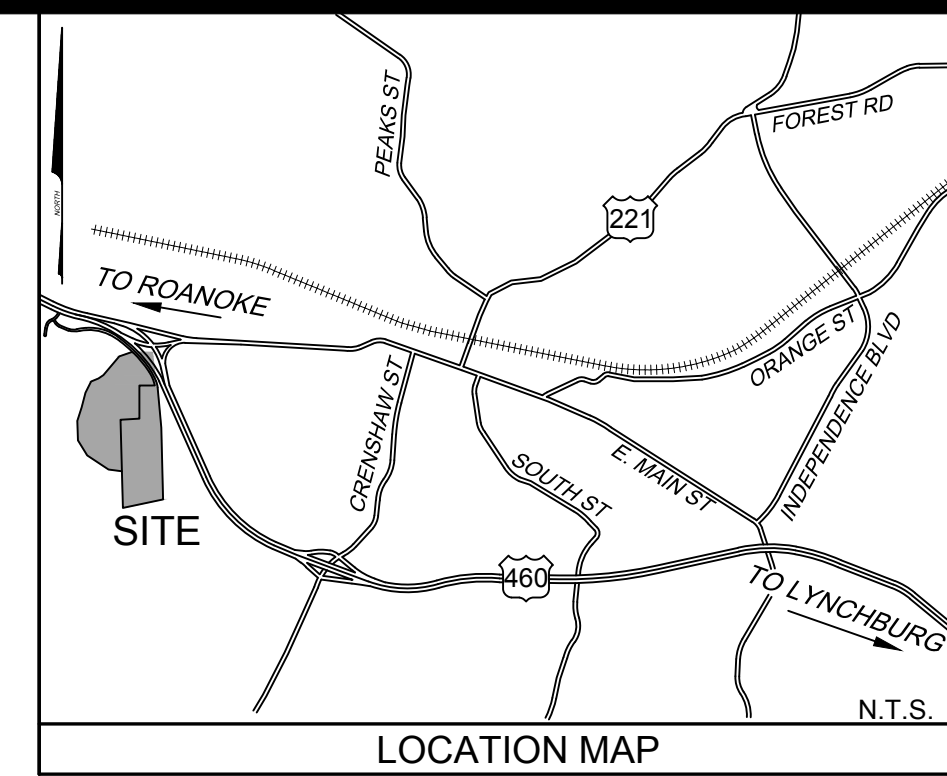


# TOWN & COUNTRY SEWER REPLACEMENT

## BEDFORD REGIONAL WATER AUTHORITY

### BEDFORD COUNTY, VIRGINIA

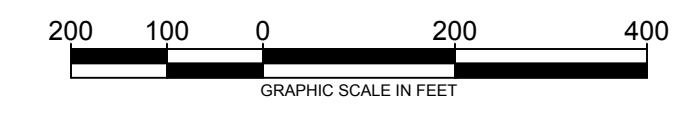
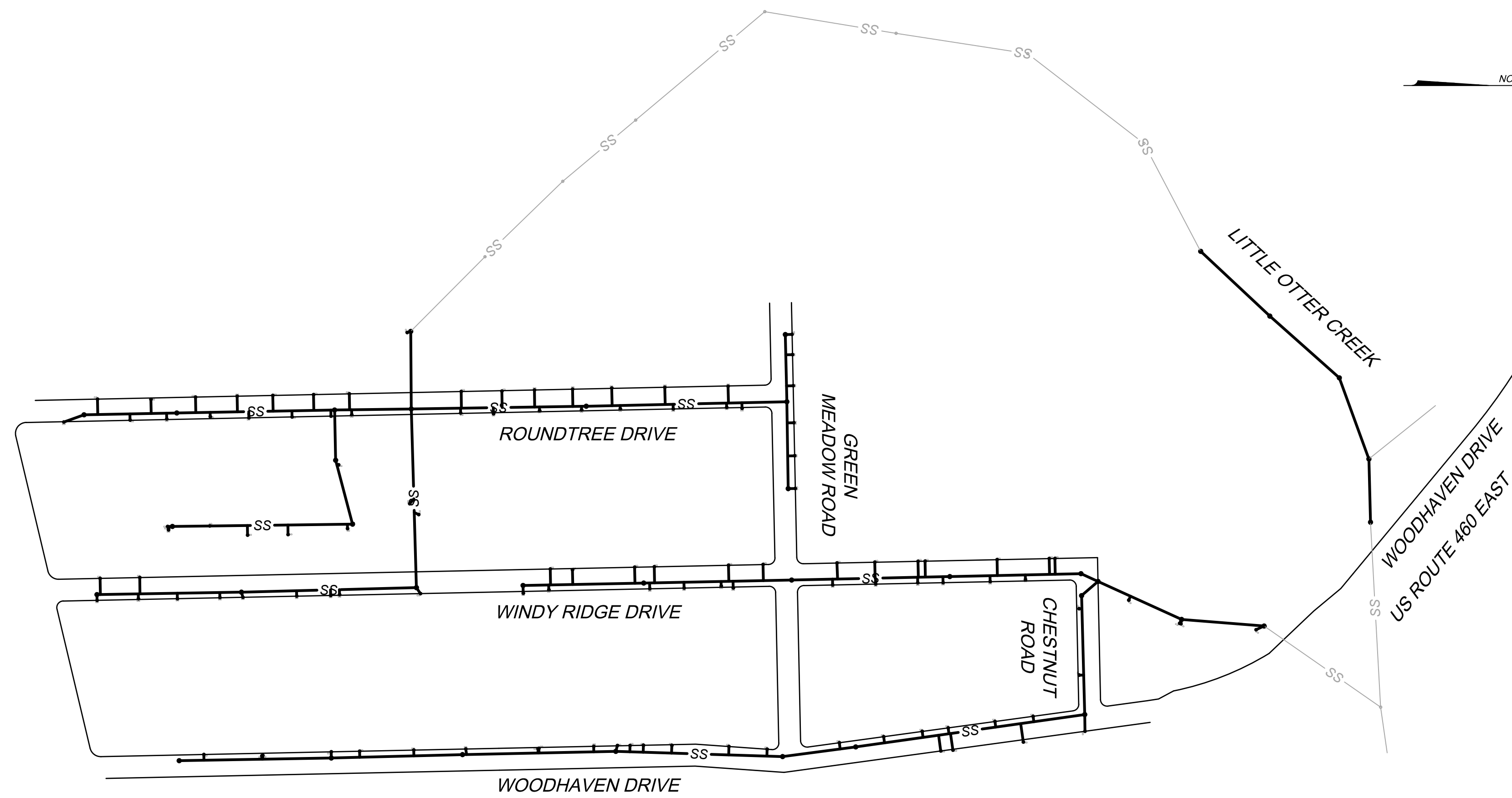
#### BRWA JOB NO. 2021-004



**HURT & PROFFITT**  
INSPIRED / RESPONSIVE / TRUSTED

434.847.7796  
2524 LANGHORNE ROAD  
LYNCHBURG, VA. 24501

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SURVEYING • LAND DEVELOPMENT • ENVIRONMENTAL  
ENGINEERING • CONSTRUCTION TESTING & INSPECTION • CULTURAL RESOURCES



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- PROPOSED LEGEND**
- SS SANITARY LINE (GRAVITY)
  - ⊕ SANITARY MANHOLE
  - ⊙ SANITARY CLEANOUT
  - ~ NEW TREELINE

- EXISTING LEGEND**
- IRON PIN FOUND
  - UTILITY POLE
  - GUY WIRE
  - TELEPHONE PEDESTAL
  - ⊕ TELEPHONE MARKER
  - CLEANOUT
  - ⊕ WATER METER
  - ⊕ WATER VALVE
  - ⊕ SANITARY MANHOLE
  - ⊕ FIRE HYDRANT
  - EDGE OF PAVEMENT
  - CREEK
  - ⊕ BENCHMARK
  - ⊕ MAILBOX
  - ⊕ SIGN
  - GUARDRAIL
  - EDGE OF WOODS
  - CHAIN LINK FENCE
  - WOODEN FENCE
  - OVERHEAD UTILITY
  - SS UG SAN. SEWER LINE
  - SS UG STORM LINE
  - W UG WATER LINE
  - CONCRETE
  - BLOCK/CONC. WALL
  - APPROXIMATE FLOOD ZONE

VIRGINIA CERTIFIED RESPONSIBLE LAND DISTURBER

NAME - PRINTED	SIGNATURE	DATE
PHONE #	COMPANY	
ADDRESS		

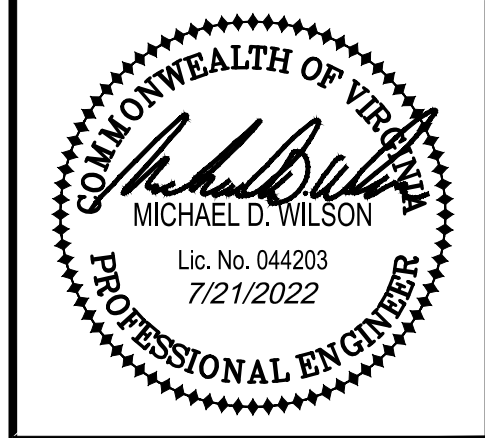
THE ENGINEER AND/OR SURVEYOR TAKES NO RESPONSIBILITY FOR THE LOCATION OR ACCURACY OF THE UTILITIES AS SHOWN HEREON OR ANY UTILITIES WITHIN THE PROJECT THAT MAY NOT BE SHOWN HEREON. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE UTILITY COMPANIES TO SEE IF ANY UTILITIES EXIST WITHIN THE AREA OF THE PROJECT BEFORE ANY CONSTRUCTION BEGINS. ANY COST INCURRED BY DAMAGING ANY UTILITY WITHIN THE PROJECT SHALL BE AT THE EXPENSE OF THE CONTRACTOR.



48 WORKING HOURS PRIOR TO STARTING THE WORK, THE CONTRACTOR SHALL CALL MISS UTILITY AT 1-800-552-7001 AND ADVISE THE NATURE AND LOCATION OF THE WORK.

**COVER SHEET**  
**FOR**  
**BRWA TOWN & COUNTRY SEWER REPLACEMENT**  
**BEDFORD, VIRGINIA**

PROJECT NO.	20210409
LAT.	37.329998°
LONG.	-79.546684°
DATE:	7/21/2022
DRAWN BY:	ZPJ
CHECKED BY:	MDW



**APPROVED FOR CONSTRUCTION**

BRWA JOB NO.  
2021-004

<b>HURT &amp; PROFFITT</b>	
SHEET NO.	REV.
G-101	

THIS SHEET IS INTENDED TO BE REPRODUCED AT 24X36. REPRODUCTION OF THIS SHEET AT A DIFFERENT SIZE THAN INTENDED SHALL VOID THE SCALE SHOWN ON THE SHEET.



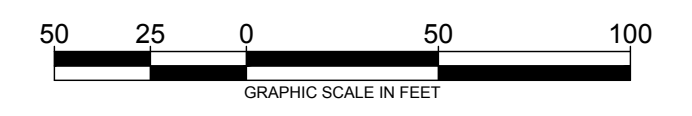
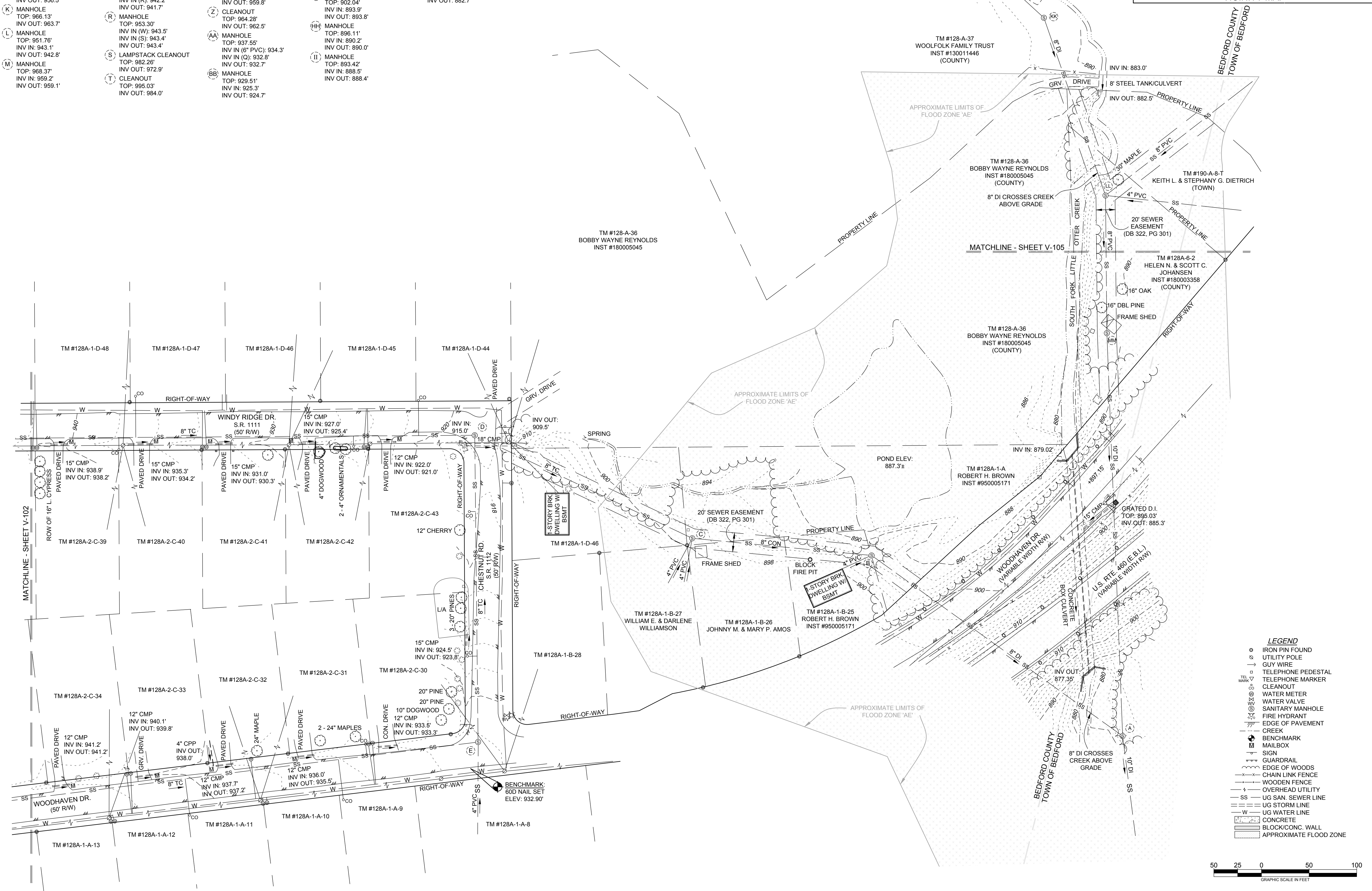
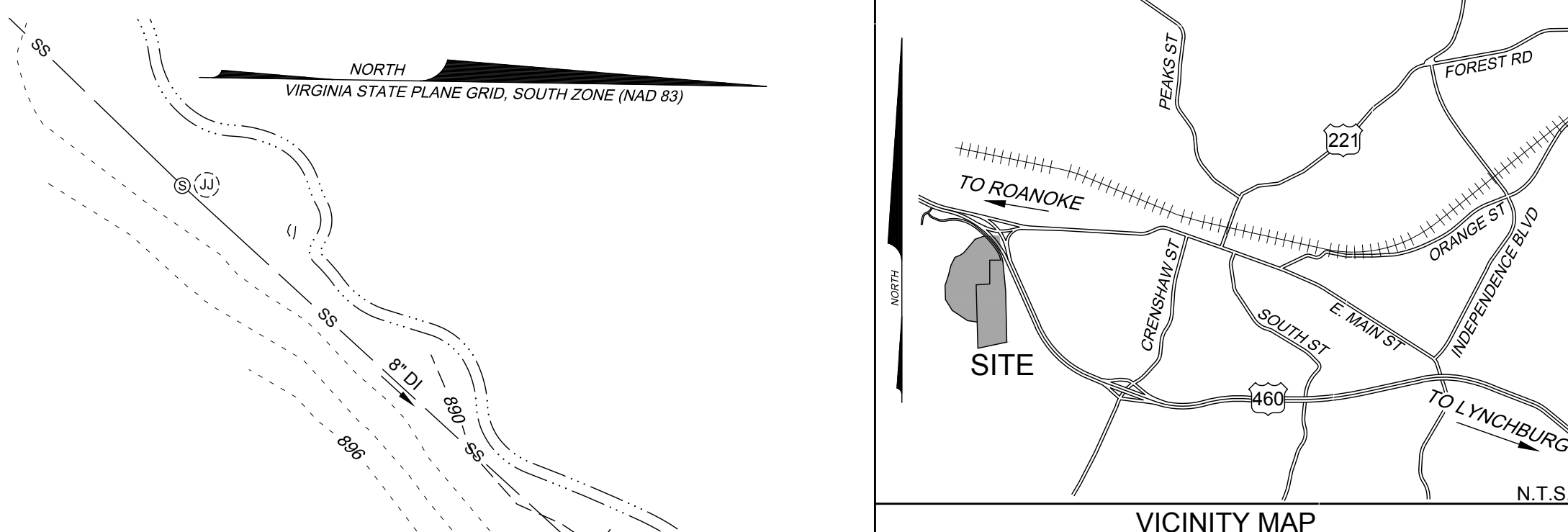


THIS SHEET IS INTENDED TO BE REPRODUCED AT 24"X36" REPRODUCTION OF THIS SHEET AT A DIFFERENT SCALE THAN INTENDED SHALL VOID THE SCALE SHOWN ON THE SHEET.

SANITARY SCHEDULE

Table with 4 columns listing manhole and cleanout details including stationing (e.g., INV IN: 879.3', INV OUT: 879.0'), pipe material (e.g., 8" TC, 4" PVC), and pipe size (e.g., 15" CMP, 12" CMP).

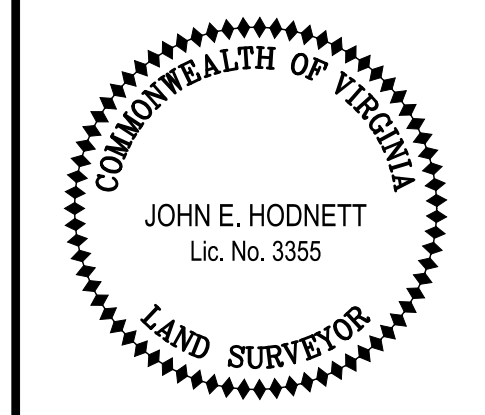
- NOTES: 1. THIS TOPOGRAPHIC SURVEY WAS COMPLETED UNDER THE DIRECT RESPONSIBLE CHARGE OF JOHN E. HODNETT FROM AN ACTUAL GROUND SURVEY MADE UNDER MY SUPERVISION... 2. PROPERTY LINES SHOWN HEREON ARE FROM RECORD INFORMATION AND HAVE ONLY BEEN TIED DOWN IN THE FIELD ADEQUATELY ENOUGH TO USE FOR GENERAL INFORMATION PURPOSES ONLY...



HURT & PROFFITT logo and contact information: 434.847.7796, 2624 LANGHORNE ROAD, LYNCHBURG, VA 24601.

TOPOGRAPHIC SURVEY FOR BRWA TOWN & COUNTRY SEWER REPLACEMENT BEDFORD, VIRGINIA

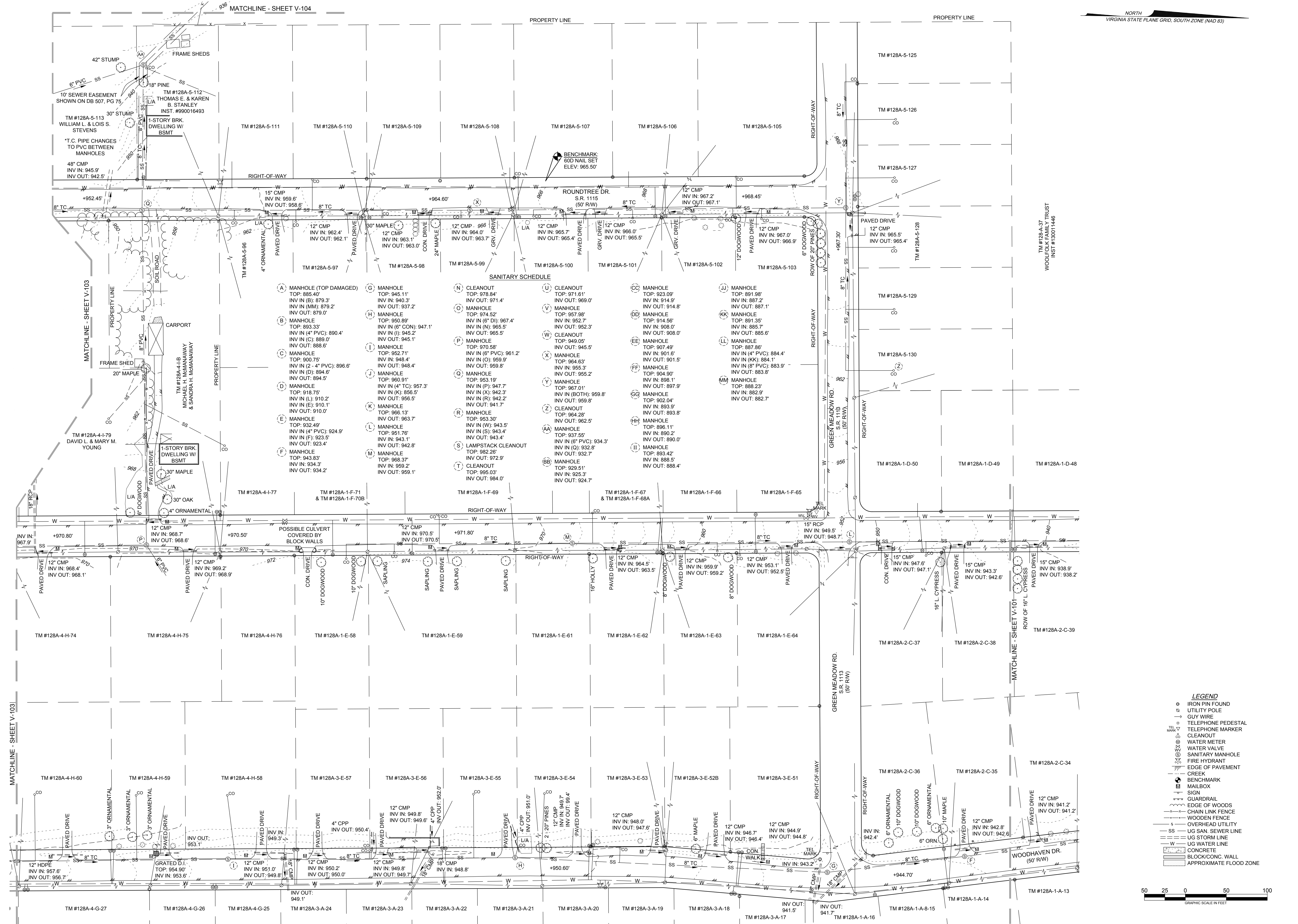
Project metadata table: PROJECT NO. 20210409, LAT. 37.329998°, LONG. -79.546684°, DATE: 04/22/2021, DRAWN BY: JEH, CHECKED BY: JEH.



APPROVED FOR CONSTRUCTION

BRWA JOB NO. 2021-004

THIS SHEET IS INTENDED TO BE REPRODUCED AT 24"X36" REPRODUCTION OF THIS SHEET AT A DIFFERENT SIZE THAN INTENDED SHALL VOID THE SCALE SHOWN ON THE SHEET.



**SANITARY SCHEDULE**

<b>A</b> MANHOLE (TOP DAMAGED) TOP: 885.40' INV IN (B): 879.3' INV IN (MM): 879.2' INV OUT: 879.0'	<b>G</b> MANHOLE TOP: 945.11' INV IN: 940.3' INV OUT: 937.2'	<b>N</b> CLEANOUT TOP: 978.84' INV IN: 971.4'	<b>U</b> CLEANOUT TOP: 971.61' INV IN: 969.0'	<b>CC</b> MANHOLE TOP: 923.09' INV IN: 914.9' INV OUT: 914.8'	<b>J</b> MANHOLE TOP: 891.98' INV IN: 887.2' INV OUT: 887.1'
<b>B</b> MANHOLE TOP: 893.33' INV IN (4" PVC): 890.4' INV IN (C): 889.0' INV OUT: 888.6'	<b>H</b> MANHOLE TOP: 950.89' INV IN (6" CON): 947.1' INV OUT: 945.1'	<b>O</b> MANHOLE TOP: 974.52' INV IN (6" DI): 967.4' INV IN (N): 965.5' INV OUT: 965.5'	<b>V</b> MANHOLE TOP: 957.98' INV IN: 952.7' INV OUT: 952.3'	<b>DD</b> MANHOLE TOP: 914.56' INV IN: 908.9' INV OUT: 908.0'	<b>KK</b> MANHOLE TOP: 891.35' INV IN: 885.7' INV OUT: 885.6'
<b>C</b> MANHOLE TOP: 900.75' INV IN (2" 4" PVC): 896.6' INV IN (D): 894.6' INV OUT: 894.5'	<b>I</b> MANHOLE TOP: 952.71' INV IN (6" PVC): 961.2' INV IN (O): 959.9' INV OUT: 959.8'	<b>P</b> MANHOLE TOP: 970.58' INV IN (6" DI): 961.2' INV IN (I): 959.9' INV OUT: 959.8'	<b>W</b> CLEANOUT TOP: 949.05' INV IN: 945.5' INV IN (S): 943.4' INV OUT: 943.4'	<b>EE</b> MANHOLE TOP: 907.49' INV IN: 901.6' INV OUT: 901.5'	<b>LL</b> MANHOLE TOP: 887.86' INV IN (4" PVC): 884.4' INV IN (KK): 884.1' INV IN (5" PVC): 883.9' INV OUT: 883.8'
<b>D</b> MANHOLE TOP: 918.75' INV IN (L): 910.2' INV IN (E): 910.1' INV OUT: 910.0'	<b>J</b> MANHOLE TOP: 960.91' INV IN (4" TC): 957.3' INV IN (K): 856.5' INV OUT: 956.5'	<b>Q</b> MANHOLE TOP: 953.19' INV IN (P): 947.7' INV IN (X): 942.3' INV IN (R): 942.2' INV OUT: 941.7'	<b>X</b> MANHOLE TOP: 964.63' INV IN: 955.2' INV OUT: 955.2'	<b>FF</b> MANHOLE TOP: 904.90' INV IN: 898.1' INV OUT: 897.9'	<b>MM</b> MANHOLE TOP: 888.23' INV IN: 882.9' INV OUT: 882.7'
<b>E</b> MANHOLE TOP: 932.49' INV IN (4" PVC): 924.9' INV IN (F): 923.5' INV OUT: 923.4'	<b>K</b> MANHOLE TOP: 966.13' INV OUT: 963.7'	<b>R</b> MANHOLE TOP: 953.30' INV IN (W): 943.5' INV IN (S): 943.4' INV OUT: 943.4'	<b>Y</b> MANHOLE TOP: 967.01' INV IN (BOTH): 959.8' INV OUT: 959.8'	<b>GG</b> MANHOLE TOP: 902.04' INV IN: 893.9' INV OUT: 893.8'	
<b>F</b> MANHOLE TOP: 943.33' INV IN: 934.3' INV OUT: 934.2'	<b>L</b> MANHOLE TOP: 951.76' INV IN: 943.1' INV OUT: 942.8'	<b>S</b> LAMPSTACK CLEANOUT TOP: 962.26' INV OUT: 972.9'	<b>Z</b> CLEANOUT TOP: 964.28' INV IN: 962.5' INV OUT: 962.5'	<b>HH</b> MANHOLE TOP: 896.11' INV IN: 890.2' INV OUT: 890.0'	
	<b>M</b> MANHOLE TOP: 968.37' INV IN: 959.2' INV OUT: 959.1'	<b>T</b> CLEANOUT TOP: 929.51' INV IN: 925.3' INV OUT: 924.7'	<b>AA</b> MANHOLE TOP: 937.55' INV IN (6" PVC): 934.3' INV IN (Q): 932.8' INV OUT: 932.8'	<b>II</b> MANHOLE TOP: 893.42' INV IN: 888.5' INV OUT: 888.4'	

- LEGEND**
- IRON PIN FOUND
  - UTILITY POLE
  - GUY WIRE
  - TELEPHONE PEDESTAL
  - TELEPHONE MARKER
  - CLEANOUT
  - WATER METER
  - WATER VALVE
  - SANITARY MANHOLE
  - FIRE HYDRANT
  - EDGE OF PAVEMENT
  - CREAK
  - BENCHMARK
  - MAILBOX
  - SIGN
  - GUARDRAIL
  - EDGE OF WOODS
  - CHAIN LINK FENCE
  - WOODEN FENCE
  - OVERHEAD UTILITY
  - UG SAN. SEWER LINE
  - UG STORM LINE
  - UG WATER LINE
  - CONCRETE
  - BLOCK CONC. WALL
  - APPROXIMATE FLOOD ZONE



**HURT & PROFFITT**  
INSPIRED / RESPONSIVE / TRUSTED

434.847.7796  
2624 LANGHORNE ROAD  
LYNCHBURG, VA 24601

LAND SURVEYOR  
ENGINEERING - LAND DEVELOPMENT - ENVIRONMENTAL  
CONSTRUCTION TESTING & INSPECTION - CULTURAL RESOURCES

**TOPOGRAPHIC SURVEY**  
FOR  
**BRWA TOWN & COUNTRY SEWER REPLACEMENT**  
BEDFORD, VIRGINIA

PROJECT NO. 20210409  
LAT. 37.329998°  
LONG. -79.546664°  
DATE: 04/22/2021  
DRAWN BY: JEH  
CHECKED BY: JEH



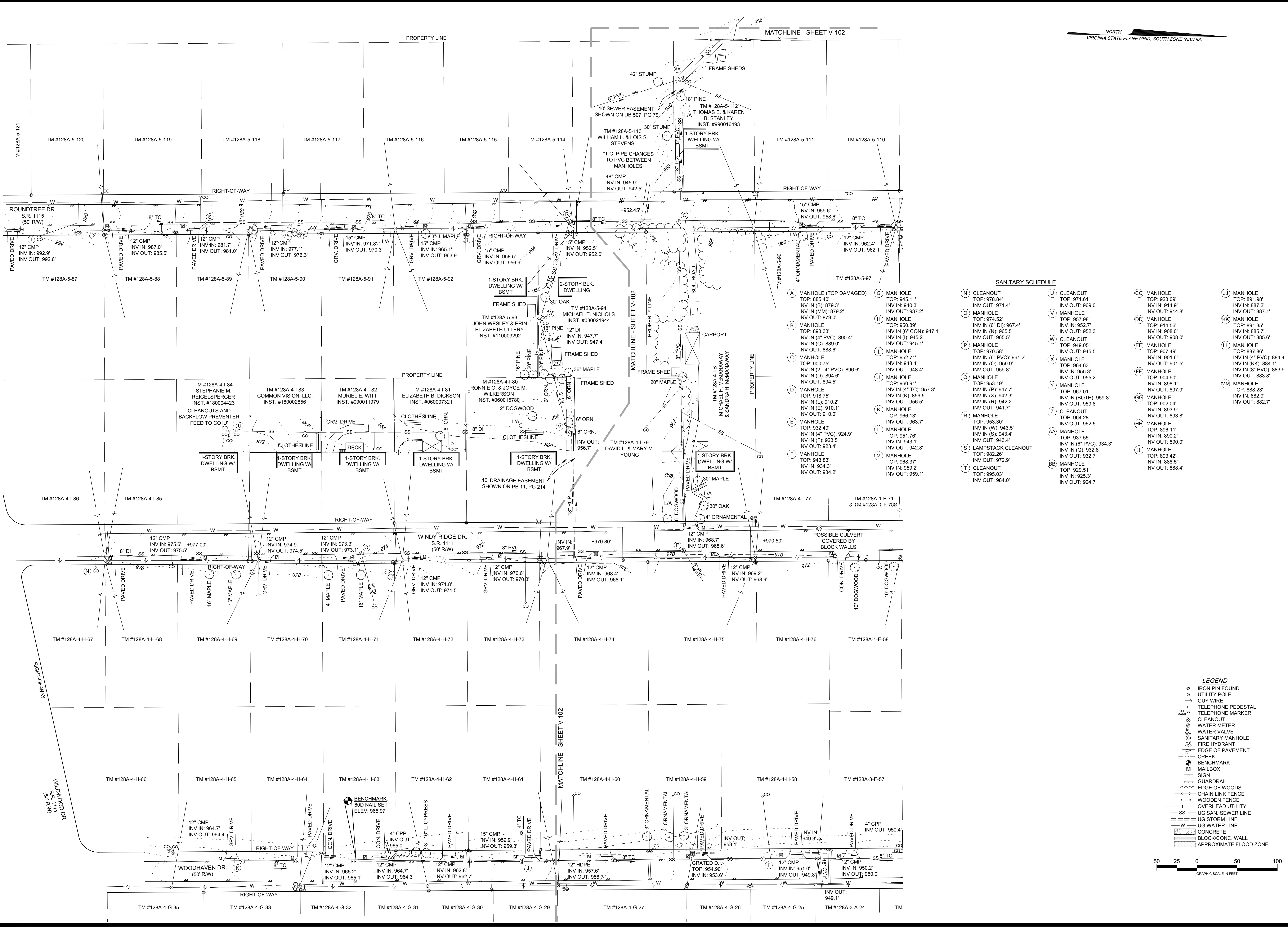
**APPROVED FOR CONSTRUCTION**

BRWA JOB NO. 2021-004

**HURT & PROFFITT**

SHEET NO. V-102 REV.

THIS SHEET IS INTENDED TO BE REPRODUCED AT 24"x36" REPRODUCTION OF THIS SHEET AT A DIFFERENT SIZE THAN INTENDED SHALL VOID THE SCALE SHOWN ON THE SHEET.



NORTH  
VIRGINIA STATE PLANE GRID, SOUTH ZONE (NAD 83)

MATCHLINE - SHEET V-102

MATCHLINE - SHEET V-102

SANITARY SCHEDULE

(A) MANHOLE (TOP DAMAGED) TOP: 885.40 INV IN (S): 879.3' INV IN (MM): 879.2' INV OUT: 879.0'	(G) MANHOLE TOP: 945.11' INV IN: 940.3' INV OUT: 937.2'	(N) CLEANOUT TOP: 978.84' INV OUT: 971.4'	(U) CLEANOUT TOP: 971.61' INV OUT: 969.0'	(CC) MANHOLE TOP: 923.09' INV IN: 914.9' INV OUT: 914.8'	(JJ) MANHOLE TOP: 891.98' INV IN: 887.2' INV OUT: 887.1'
(B) MANHOLE TOP: 893.33' INV IN (4" PVC): 890.4' INV IN (C): 889.0' INV OUT: 888.6'	(H) MANHOLE TOP: 950.89' INV IN (6" DI): 947.1' INV OUT: 945.1'	(O) MANHOLE TOP: 974.52' INV IN (6" DI): 967.4' INV IN (I): 965.5' INV OUT: 965.5'	(V) MANHOLE TOP: 957.98' INV IN (6" DI): 952.3' INV OUT: 952.3'	(DD) MANHOLE TOP: 914.56' INV IN: 908.0' INV IN: 908.0'	(KK) MANHOLE TOP: 891.35' INV IN: 885.7' INV OUT: 885.6'
(C) MANHOLE TOP: 900.75' INV IN (2 - 4" PVC): 896.6' INV IN (D): 894.6' INV OUT: 894.5'	(I) MANHOLE TOP: 952.71' INV IN: 948.4' INV OUT: 948.4'	(P) MANHOLE TOP: 970.58' INV IN (6" PVC): 961.2' INV IN (O): 959.9' INV OUT: 959.8'	(X) MANHOLE TOP: 964.63' INV IN: 955.3' INV OUT: 955.2'	(EE) MANHOLE TOP: 907.49' INV IN: 901.6' INV OUT: 901.5'	(LL) MANHOLE TOP: 867.86' INV IN (4" PVC): 884.4' INV IN (KK): 884.1' INV IN (8" PVC): 883.9' INV OUT: 883.8'
(D) MANHOLE TOP: 918.75' INV IN (L): 910.2' INV IN (E): 910.1' INV OUT: 910.0'	(J) MANHOLE TOP: 960.91' INV IN (4" TC): 957.3' INV IN (K): 856.5' INV OUT: 956.5'	(Q) MANHOLE TOP: 953.19' INV IN (P): 947.7' INV IN (S): 943.4' INV IN (R): 942.2' INV OUT: 941.7'	(Y) MANHOLE TOP: 967.01' INV IN (BOTH): 959.8' INV OUT: 959.8'	(FF) MANHOLE TOP: 904.90' INV IN: 898.1' INV OUT: 897.9'	(MM) MANHOLE TOP: 888.23' INV IN: 882.9' INV OUT: 882.7'
(E) MANHOLE TOP: 932.49' INV IN (4" PVC): 924.9' INV IN (F): 923.5' INV OUT: 923.4'	(K) MANHOLE TOP: 966.13' INV OUT: 963.7'	(R) MANHOLE TOP: 953.30' INV IN (W): 943.5' INV IN (S): 943.4' INV OUT: 943.4'	(Z) CLEANOUT TOP: 964.28' INV OUT: 962.5'	(HH) MANHOLE TOP: 896.11' INV IN (6" PVC): 934.3' INV IN (Q): 932.8' INV OUT: 932.7'	
(F) MANHOLE TOP: 943.83' INV IN: 934.3' INV OUT: 934.2'	(L) MANHOLE TOP: 951.76' INV IN: 943.1' INV OUT: 942.8'	(S) LAMPSTACK CLEANOUT TOP: 982.26' INV OUT: 972.9'	(AA) MANHOLE TOP: 937.55' INV IN (6" PVC): 934.3' INV IN (O): 932.8' INV OUT: 932.7'	(II) MANHOLE TOP: 893.42' INV IN: 888.5' INV OUT: 888.4'	
	(M) MANHOLE TOP: 968.37' INV IN: 959.2' INV OUT: 959.1'	(T) CLEANOUT TOP: 995.03' INV OUT: 984.0'			

LEGEND

- IRON PIN FOUND
- UTILITY POLE
- GUY WIRE
- TELEPHONE PEDESTAL
- TELEPHONE MARKER
- CLEANOUT
- WATER METER
- WATER VALVE
- SANITARY MANHOLE
- FIRE HYDRANT
- EDGE OF PAVEMENT
- CREEK
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- APPROXIMATE FLOOD ZONE



**HURT & PROFFITT**  
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HP

434.847.7796  
2624 LANGHORNE ROAD  
LYNCHBURG, VA 24601

HAND COM  
ENGINEERING - LAND DEVELOPMENT - ENVIRONMENTAL  
CONSTRUCTION TESTING & INSPECTION - CULTURAL RESOURCES

TOPOGRAPHIC SURVEY  
FOR  
**BRWA TOWN & COUNTRY SEWER REPLACEMENT**  
BEDFORD, VIRGINIA

PROJECT NO. 20210409  
LAT. 37.329998°  
LONG. -79.546684°  
DATE: 04/22/2021  
DRAWN BY: JEH  
CHECKED BY: JEH



APPROVED FOR CONSTRUCTION

BRWA JOB NO. 2021-004

HURT & PROFFITT  
SHEET NO. V-103 REV.

THIS SHEET IS INTENDED TO BE REPRODUCED AT 24"X36". REPRODUCTION OF THIS SHEET AT A DIFFERENT SIZE THAN INTENDED SHALL VOID THE SCALE SHOWN ON THE SHEET.

NORTH  
VIRGINIA STATE PLANE GRID, SOUTH ZONE (NAD 83)

TM #128-A-38  
PATRICIA & LISA PERSINGER  
INST #020022735

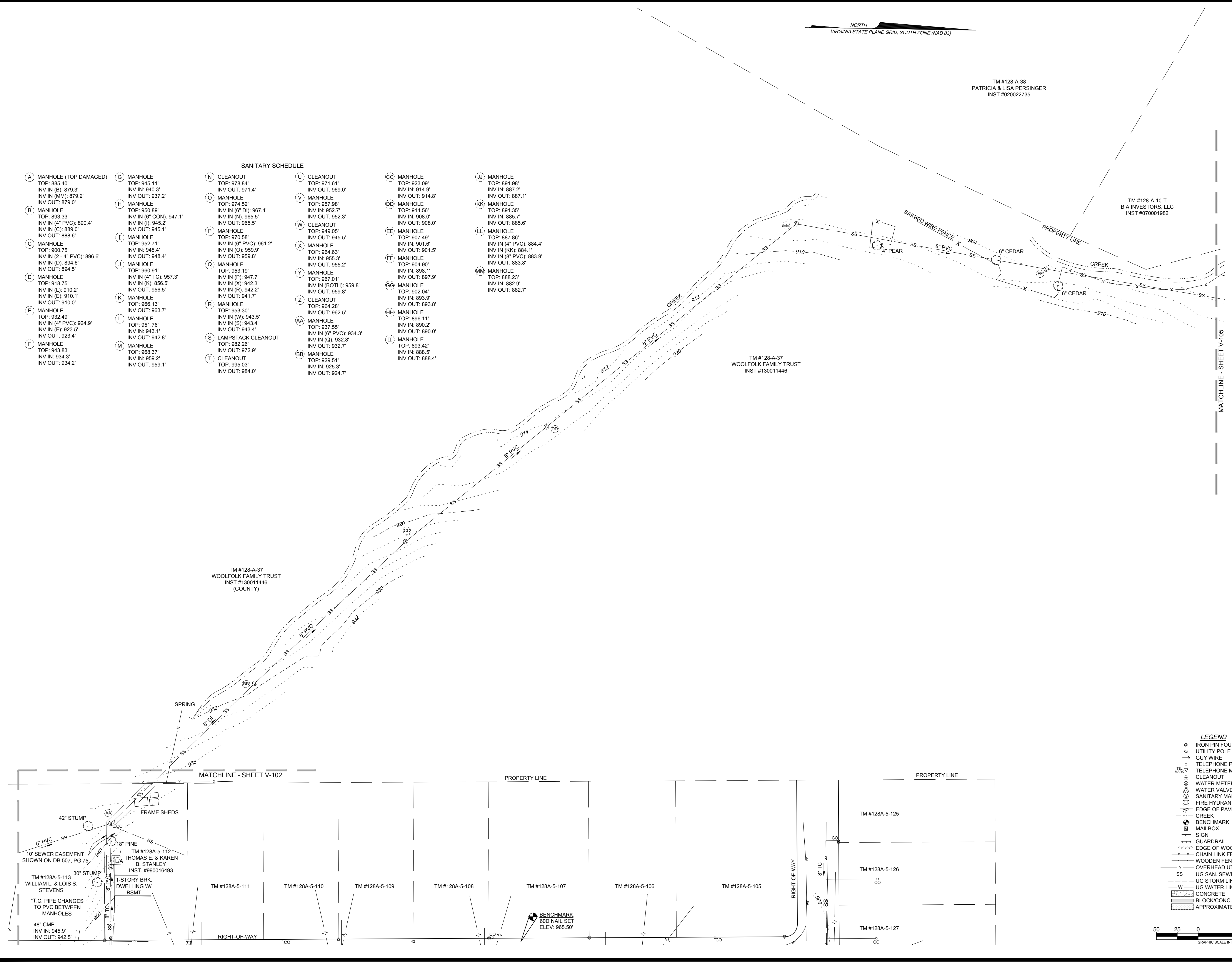
TM #128-A-10-T  
B A INVESTORS, LLC  
INST #070001982

TM #128-A-37  
WOOLFOLK FAMILY TRUST  
INST #130011446

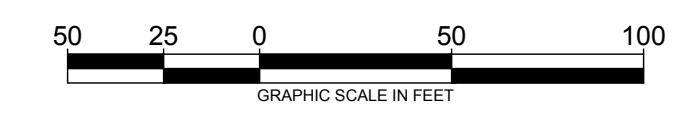
TM #128-A-37  
WOOLFOLK FAMILY TRUST  
INST #130011446  
(COUNTY)

SANITARY SCHEDULE

- |   |  |  |  |   |  |
|---|--|--|--|---|--|
| (A) MANHOLE (TOP DAMAGED)<br>TOP: 885.40'<br>INV IN (B): 879.3'<br>INV IN (MM): 879.2'<br>INV OUT: 879.0' | (G) MANHOLE<br>TOP: 945.11'<br>INV IN: 940.3'<br>INV OUT: 937.2'   | (N) CLEANOUT<br>TOP: 978.84'<br>INV OUT: 971.4'  | (U) CLEANOUT<br>TOP: 971.61'<br>INV OUT: 969.0'  | (CC) MANHOLE<br>TOP: 923.09'<br>INV IN: 914.9'<br>INV OUT: 914.8' | (JJ) MANHOLE<br>TOP: 891.98'<br>INV IN: 887.2'<br>INV OUT: 887.1'  |
| (B) MANHOLE<br>TOP: 893.33'<br>INV IN (4" PVC): 890.4'<br>INV IN (C): 889.0'<br>INV OUT: 888.6'           | (H) MANHOLE<br>TOP: 950.89'<br>INV IN (6" CON): 947.1'<br>INV IN (I): 945.2'<br>INV OUT: 945.1'                      | (O) MANHOLE<br>TOP: 974.52'<br>INV IN (6" DI): 967.4'<br>INV IN (N): 965.5'<br>INV OUT: 965.5'                   | (V) MANHOLE<br>TOP: 957.98'<br>INV IN: 952.7'<br>INV OUT: 952.3'                                 | (DD) MANHOLE<br>TOP: 914.56'<br>INV IN: 908.0'<br>INV OUT: 908.0' | (KK) MANHOLE<br>TOP: 891.35'<br>INV IN: 885.7'<br>INV OUT: 885.6'  |
| (C) MANHOLE<br>TOP: 900.75'<br>INV IN (2 - 4" PVC): 896.6'<br>INV IN (D): 894.5'<br>INV OUT: 894.5'       | (I) MANHOLE<br>TOP: 952.71'<br>INV IN: 948.4'<br>INV OUT: 948.4'   | (P) MANHOLE<br>TOP: 970.58'<br>INV IN (6" PVC): 961.2'<br>INV IN (O): 959.9'<br>INV OUT: 959.8'                  | (W) CLEANOUT<br>TOP: 949.05'<br>INV OUT: 945.5'  | (EE) MANHOLE<br>TOP: 907.49'<br>INV IN: 901.6'<br>INV OUT: 901.5' | (LL) MANHOLE<br>TOP: 887.86'<br>INV IN (4" PVC): 884.4'<br>INV IN (KK): 884.1'<br>INV IN (6" PVC): 883.9'<br>INV OUT: 883.8' |
| (D) MANHOLE<br>TOP: 918.75'<br>INV IN (L): 910.2'<br>INV IN (E): 910.1'<br>INV OUT: 910.0'                | (J) MANHOLE<br>TOP: 960.91'<br>INV IN (4" TC): 957.3'<br>INV IN (K): 856.5'<br>INV IN (R): 942.2'<br>INV OUT: 941.7' | (Q) MANHOLE<br>TOP: 953.19'<br>INV IN (F): 947.7'<br>INV IN (X): 942.3'<br>INV IN (R): 942.2'<br>INV OUT: 941.7' | (Y) MANHOLE<br>TOP: 967.01'<br>INV IN (BOTH): 959.8'<br>INV OUT: 959.8'                          | (FF) MANHOLE<br>TOP: 904.90'<br>INV IN: 898.1'<br>INV OUT: 897.9' | (MM) MANHOLE<br>TOP: 888.23'<br>INV IN: 882.9'<br>INV OUT: 882.7'  |
| (E) MANHOLE<br>TOP: 932.49'<br>INV IN (4" PVC): 924.9'<br>INV IN (F): 923.5'<br>INV OUT: 923.4'           | (K) MANHOLE<br>TOP: 966.13'<br>INV OUT: 963.7'   | (R) MANHOLE<br>TOP: 953.30'<br>INV IN (W): 943.5'<br>INV IN (S): 943.4'<br>INV OUT: 943.4'                       | (Z) CLEANOUT<br>TOP: 964.28'<br>INV OUT: 962.5'  | (GG) MANHOLE<br>TOP: 902.04'<br>INV IN: 893.9'<br>INV OUT: 893.8' | (HH) MANHOLE<br>TOP: 896.11'<br>INV IN: 890.2'<br>INV OUT: 890.0'  |
| (F) MANHOLE<br>TOP: 943.83'<br>INV IN: 934.3'<br>INV OUT: 934.2'  | (L) MANHOLE<br>TOP: 951.76'<br>INV IN: 943.1'<br>INV OUT: 942.8'   | (S) LAMPSTACK CLEANOUT<br>TOP: 982.26'<br>INV OUT: 972.9'  | (AA) MANHOLE<br>TOP: 937.55'<br>INV IN (6" PVC): 934.3'<br>INV IN (Q): 932.8'<br>INV OUT: 932.7' | (II) MANHOLE<br>TOP: 893.42'<br>INV IN: 888.5'<br>INV OUT: 888.4' |  |
|   | (M) MANHOLE<br>TOP: 968.37'<br>INV IN: 959.2'<br>INV OUT: 959.1'   | (T) CLEANOUT<br>TOP: 995.03'<br>INV OUT: 984.0'  | (BB) MANHOLE<br>TOP: 929.51'<br>INV IN: 925.3'<br>INV OUT: 924.7'                                |   |  |



- LEGEND**
- IRON PIN FOUND
  - UTILITY POLE
  - GUY WIRE
  - TELEPHONE PEDESTAL
  - TELEPHONE MARKER
  - CLEANOUT
  - WATER METER
  - WATER VALVE
  - SANITARY MANHOLE
  - FIRE HYDRANT
  - EDGE OF PAVEMENT
  - CREEK
  - BENCHMARK
  - MAILBOX
  - SIGN
  - GUARDRAIL
  - EDGE OF WOODS
  - CHAIN LINK FENCE
  - WOODEN FENCE
  - OVERHEAD UTILITY
  - UG SAN. SEWER LINE
  - UG STORM LINE
  - UG WATER LINE
  - CONCRETE
  - BLOCK/CONC. WALL
  - APPROXIMATE FLOOD ZONE



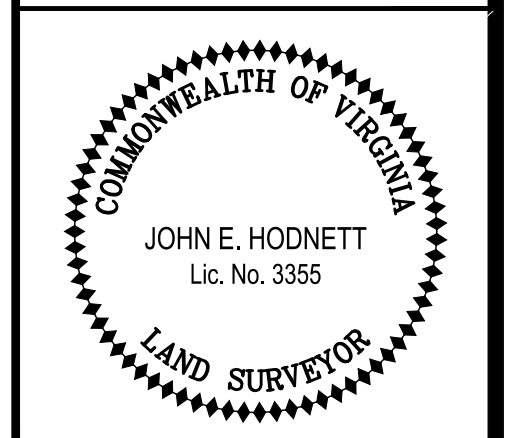
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TOPOGRAPHIC SURVEY  
FOR  
**BRWA TOWN & COUNTRY SEWER REPLACEMENT**  
BEDFORD, VIRGINIA

PROJECT NO.	20210409
LAT.	37.329998°
LONG.	-79.546684°
DATE:	04/22/2021
DRAWN BY:	JEH
CHECKED BY:	JEH



**APPROVED FOR CONSTRUCTION**

BRWA JOB NO.  
2021-004

**HURT & PROFFITT**  
SHEET NO. V-104  
REV.

THIS SHEET IS INTENDED TO BE REPRODUCED AT 24"x36". REPRODUCTION OF THIS SHEET AT A DIFFERENT SIZE THAN INTENDED SHALL VOID THE SCALE SHOWN ON THE SHEET.



**SANITARY SCHEDULE**

(A) MANHOLE (TOP DAMAGED) TOP: 885.40' INV IN (B): 879.3' INV IN (MM): 879.2' INV OUT: 879.0'	(G) MANHOLE TOP: 945.11' INV IN: 940.3' INV OUT: 937.2'	(N) CLEANOUT TOP: 978.84' INV OUT: 971.4'	(U) CLEANOUT TOP: 971.61' INV OUT: 969.0'	(CC) MANHOLE TOP: 923.09' INV IN: 914.9' INV OUT: 914.8'	(JJ) MANHOLE TOP: 891.96' INV IN: 887.2' INV OUT: 887.1'
(B) MANHOLE TOP: 893.33' INV IN (4" PVC): 890.4' INV IN (C): 889.0' INV OUT: 888.6'	(H) MANHOLE TOP: 950.89' INV IN (6" CON): 947.1' INV IN (I): 945.2' INV OUT: 945.1'	(D) MANHOLE TOP: 974.52' INV IN (6" DI): 967.4' INV IN (N): 965.5' INV OUT: 965.5'	(V) MANHOLE TOP: 957.98' INV IN: 952.7' INV OUT: 952.3'	(DD) MANHOLE TOP: 914.56' INV IN: 908.0' INV OUT: 908.0'	(KK) MANHOLE TOP: 891.35' INV IN: 885.7' INV OUT: 885.6'
(C) MANHOLE TOP: 900.75' INV IN (2 - 4" PVC): 896.6' INV IN (D): 894.6' INV OUT: 894.5'	(I) MANHOLE TOP: 952.71' INV IN: 948.4' INV OUT: 948.4'	(P) MANHOLE TOP: 970.58' INV IN (6" PVC): 961.2' INV OUT: 959.8'	(W) CLEANOUT TOP: 949.05' INV OUT: 945.5'	(EE) MANHOLE TOP: 907.49' INV IN: 901.6' INV OUT: 901.5'	(LL) MANHOLE TOP: 887.86' INV IN (4" PVC): 884.4' INV IN (KK): 884.1' INV IN (8" PVC): 883.9' INV OUT: 883.8'
(D) MANHOLE TOP: 918.75' INV IN (L): 910.2' INV IN (E): 910.1' INV OUT: 910.0'	(J) MANHOLE TOP: 960.91' INV IN (4" TC): 957.3' INV IN (K): 955.5' INV OUT: 956.5'	(Q) MANHOLE TOP: 953.19' INV IN (P): 947.7' INV IN (X): 942.3' INV IN (R): 942.2' INV OUT: 941.7'	(X) MANHOLE TOP: 964.63' INV IN: 955.3' INV OUT: 955.2'	(FF) MANHOLE TOP: 904.90' INV IN: 898.1' INV OUT: 897.9'	(MM) MANHOLE TOP: 888.23' INV IN: 882.9' INV OUT: 882.7'
(E) MANHOLE TOP: 932.49' INV IN (4" PVC): 924.9' INV IN (F): 923.5' INV OUT: 923.4'	(K) MANHOLE TOP: 966.13' INV OUT: 963.7'	(R) MANHOLE TOP: 953.30' INV IN (W): 943.5' INV IN (S): 943.4' INV OUT: 943.4'	(Y) MANHOLE TOP: 967.01' INV IN (BOTH): 959.8' INV OUT: 959.8'	(GG) MANHOLE TOP: 902.04' INV IN: 893.9' INV OUT: 893.8'	
(F) MANHOLE TOP: 943.83' INV IN: 934.3' INV OUT: 934.2'	(L) MANHOLE TOP: 951.76' INV IN: 943.1' INV OUT: 942.8'	(S) LAMPSTACK CLEANOUT TOP: 982.26' INV OUT: 972.9'	(Z) CLEANOUT TOP: 964.28' INV OUT: 962.5'	(HH) MANHOLE TOP: 896.11' INV IN: 890.2' INV OUT: 890.0'	
	(M) MANHOLE TOP: 968.37' INV IN: 959.2' INV OUT: 959.1'	(T) CLEANOUT TOP: 995.03' INV OUT: 984.0'	(AA) MANHOLE TOP: 937.55' INV IN (6" PVC): 934.3' INV IN (Q): 932.8' INV OUT: 932.7'	(II) MANHOLE TOP: 893.42' INV IN: 888.5' INV OUT: 888.4'	



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TOPOGRAPHIC SURVEY  
FOR  
**BRWA TOWN & COUNTRY SEWER REPLACEMENT**  
BEDFORD, VIRGINIA

PROJECT NO. 20210409  
LAT. 37.329998°  
LONG. -79.546684°  
DATE: 04/22/2021  
DRAWN BY: JEH  
CHECKED BY: JEH



**APPROVED FOR CONSTRUCTION**

BRWA JOB NO. 2021-004

**LEGEND**

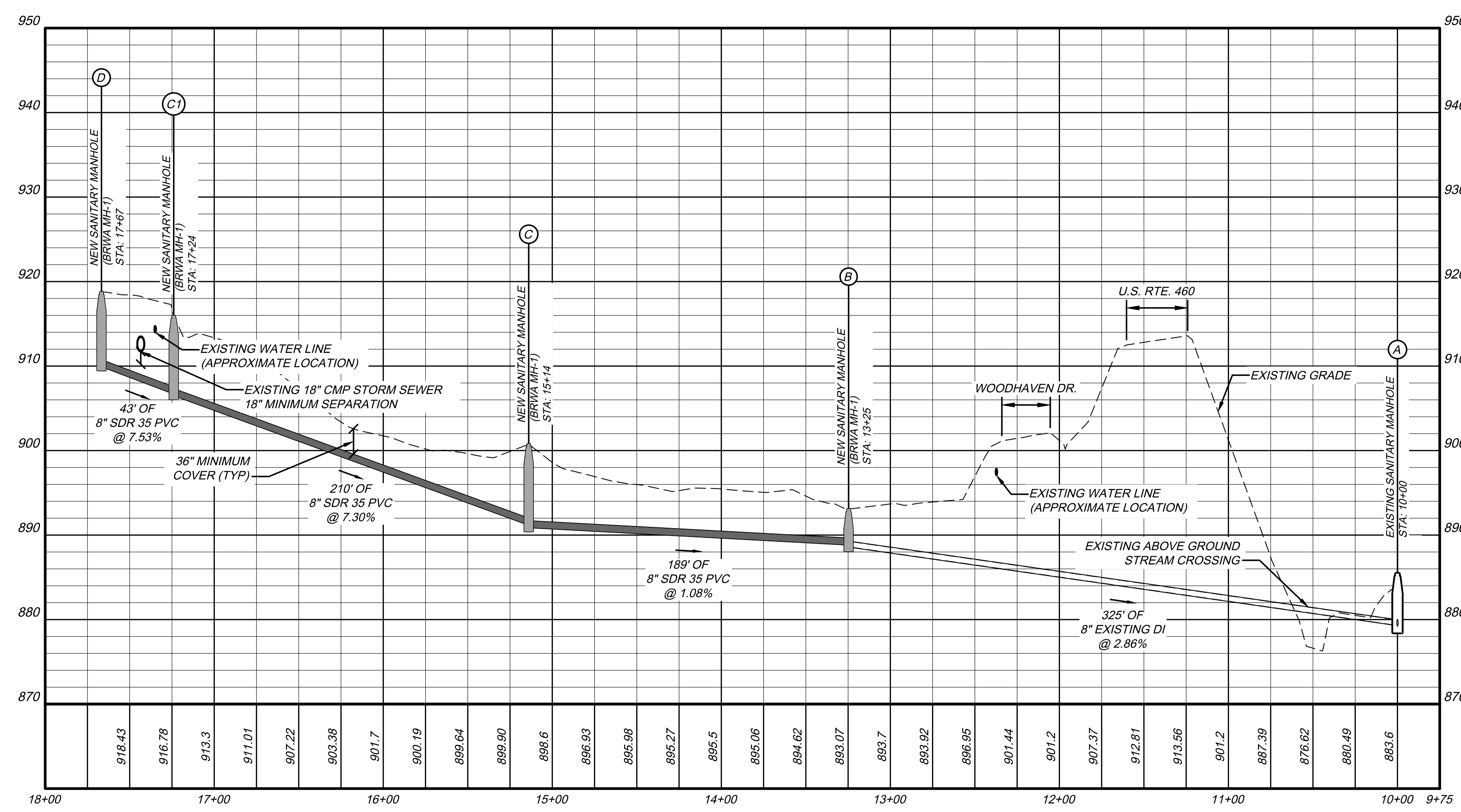
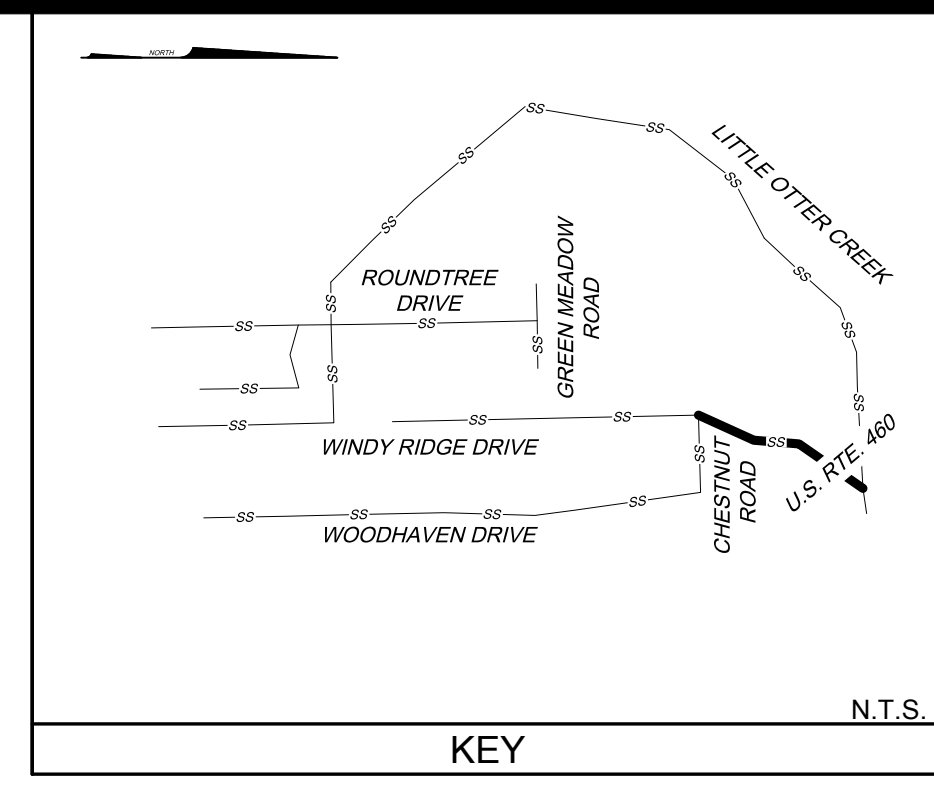
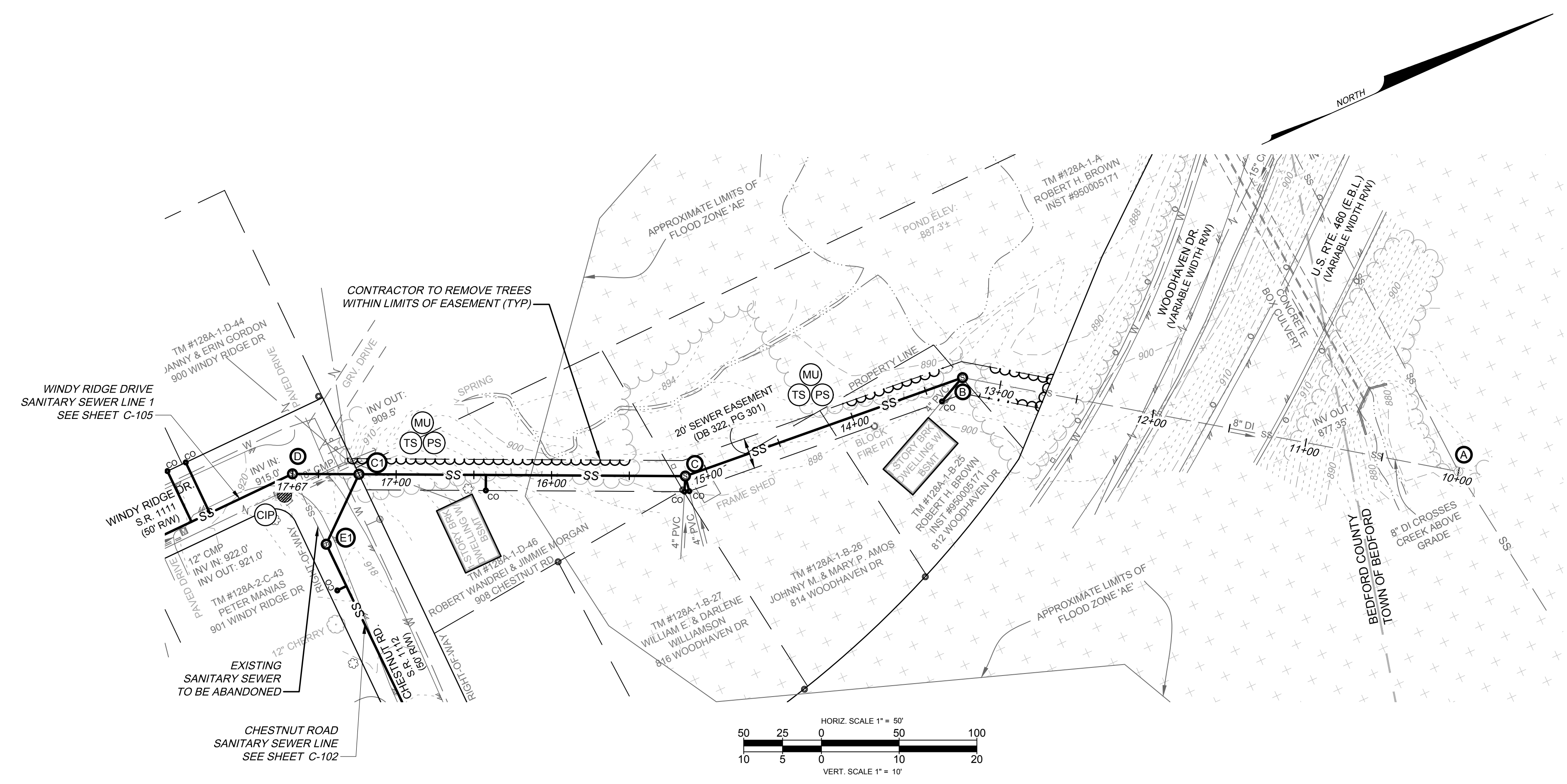
- IRON PIN FOUND
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50 25 0 50 100  
GRAPHIC SCALE IN FEET

JUL 21, 2022 2:51 pm I:\DATA\Projects\2021\20210409\Survey\CAD\DWG\TOPO.dwg



THIS SHEET IS INTENDED TO BE REPRODUCED AT 24X36. REPRODUCTION OF THIS SHEET AT A DIFFERENT SIZE THAN INTENDED SHALL VOID THE SCALE SHOWN ON THE SHEET.



CHESTNUT ROAD TO U.S. RTE. 460 SANITARY SEWER

- NOTES:**
- EXISTING SANITARY SEWER TO BE REPLACED IN THE SAME TRENCH. NEW TRENCH BOTTOM MAY BE LOWER IN SOME LOCATIONS TO PROVIDE SUFFICIENT COVER OVER PIPE.
  - CONTRACTOR TO PROVIDE BYPASS PUMPING.
  - ALL MANHOLES WILL BE REPLACED.
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**SANITARY STRUCTURE SCHEDULE**

EXISTING SANITARY MANHOLE 48" DIA.; H = 6.40'
STA: 10+00
TOP: 885.40
N: 3647278.15
E: 11179306.74
INV IN=879.30 FROM B DEFLECTION: 46.97° L
INV IN=879.20 FROM MM DEFLECTION: 5.05° R
INV OUT=879.00
NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 4.47'
STA: 13+25
TOP: 893.07
N: 3647011.64
E: 11179121.20
INV IN=888.90 FROM C DEFLECTION: 30.28° L
INV IN=890.40 FROM N/A DEFLECTION: 60.10° L
INV OUT=888.60
NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 9.80'
STA: 15+14
TOP: 900.75
N: 3646823.02
E: 11179106.13
INV IN=896.60 FROM N/A DEFLECTION: 67.25° L
INV IN=896.60 FROM N/A DEFLECTION: 84.93° L
INV IN=891.25 FROM C1 DEFLECTION: 19.89° R
INV OUT=890.95
NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 9.37'
STA: 17+24
TOP: 915.94
N: 3646631.88
E: 11179019.20
INV IN=906.88 FROM E1 DEFLECTION: 65.30° L
INV IN=906.78 FROM D DEFLECTION: 0.00°
INV OUT=906.58
NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 8.76'
STA: 17+67
TOP: 918.76
N: 3646592.97
E: 11179001.50
INV IN=910.30 FROM D1 DEFLECTION: 25.72° L
INV OUT=910.00

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CHESTNUT ROAD TO U.S. RTE. 460 SANITARY SEWER  
FOR  
BRWA TOWN & COUNTRY SEWER REPLACEMENT  
BEDFORD, VIRGINIA

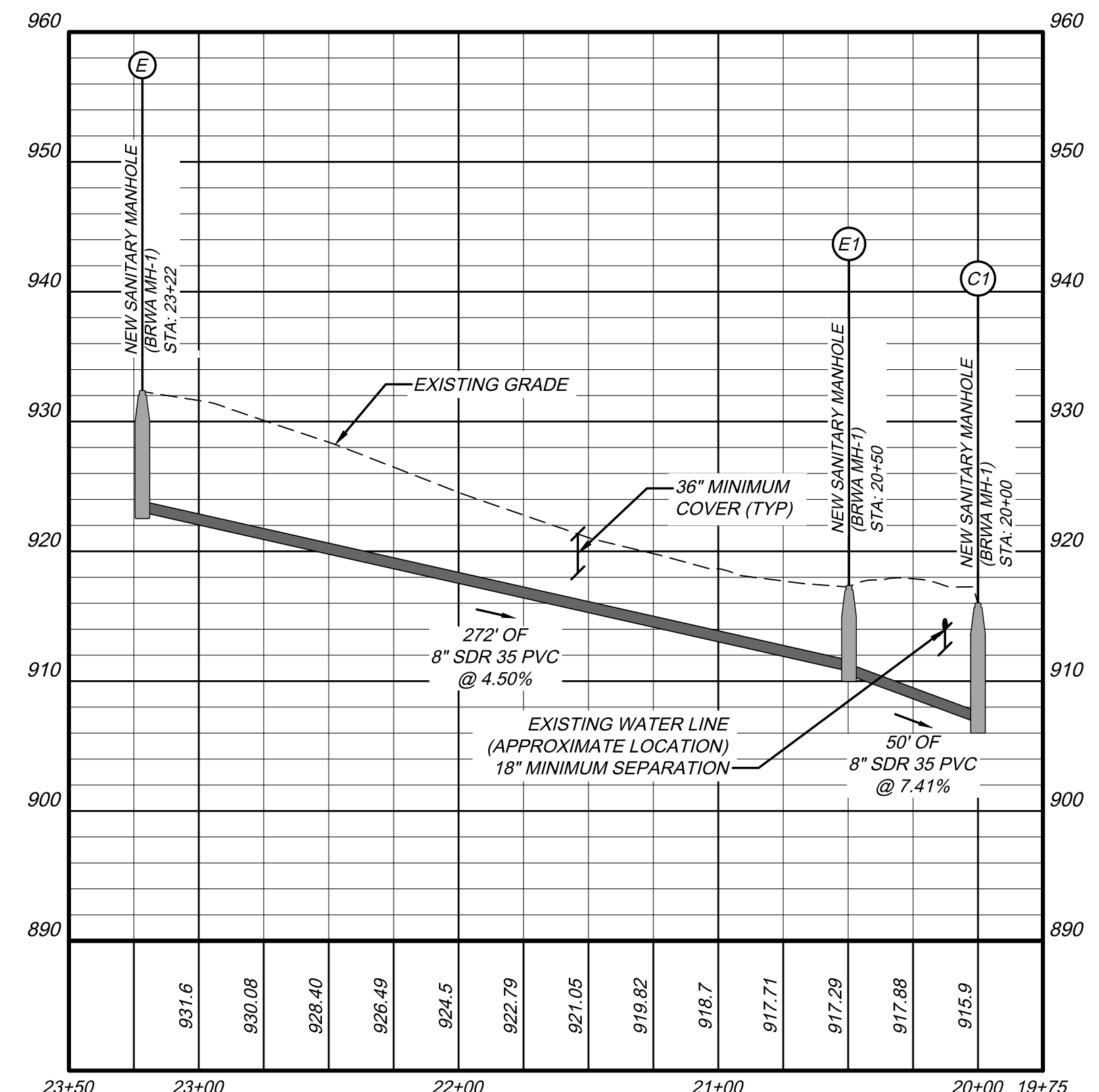
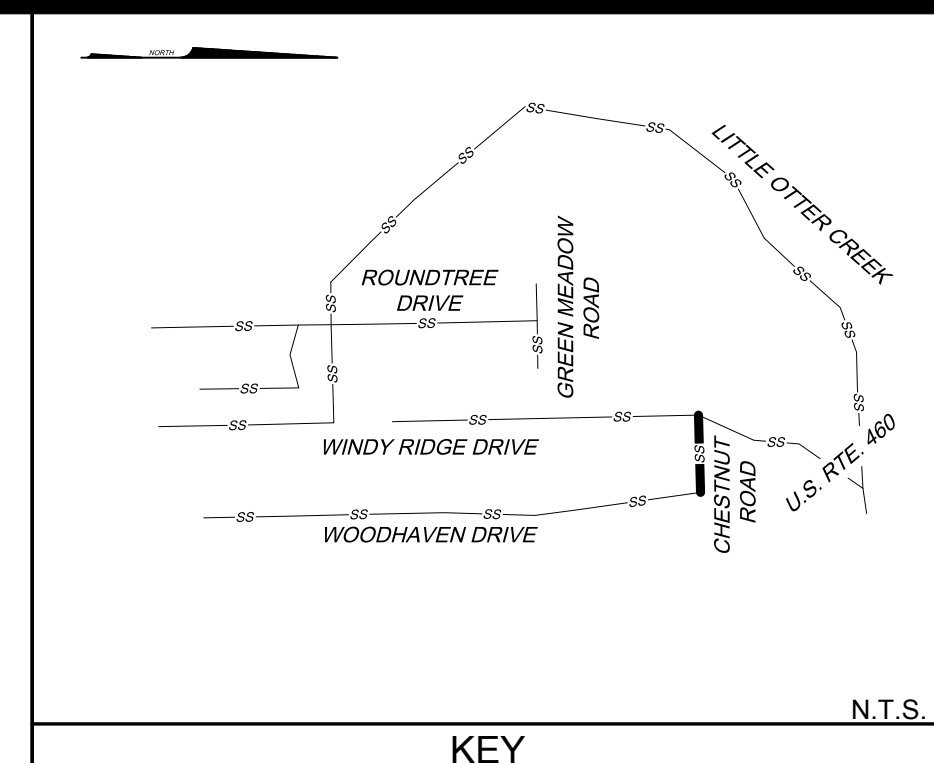
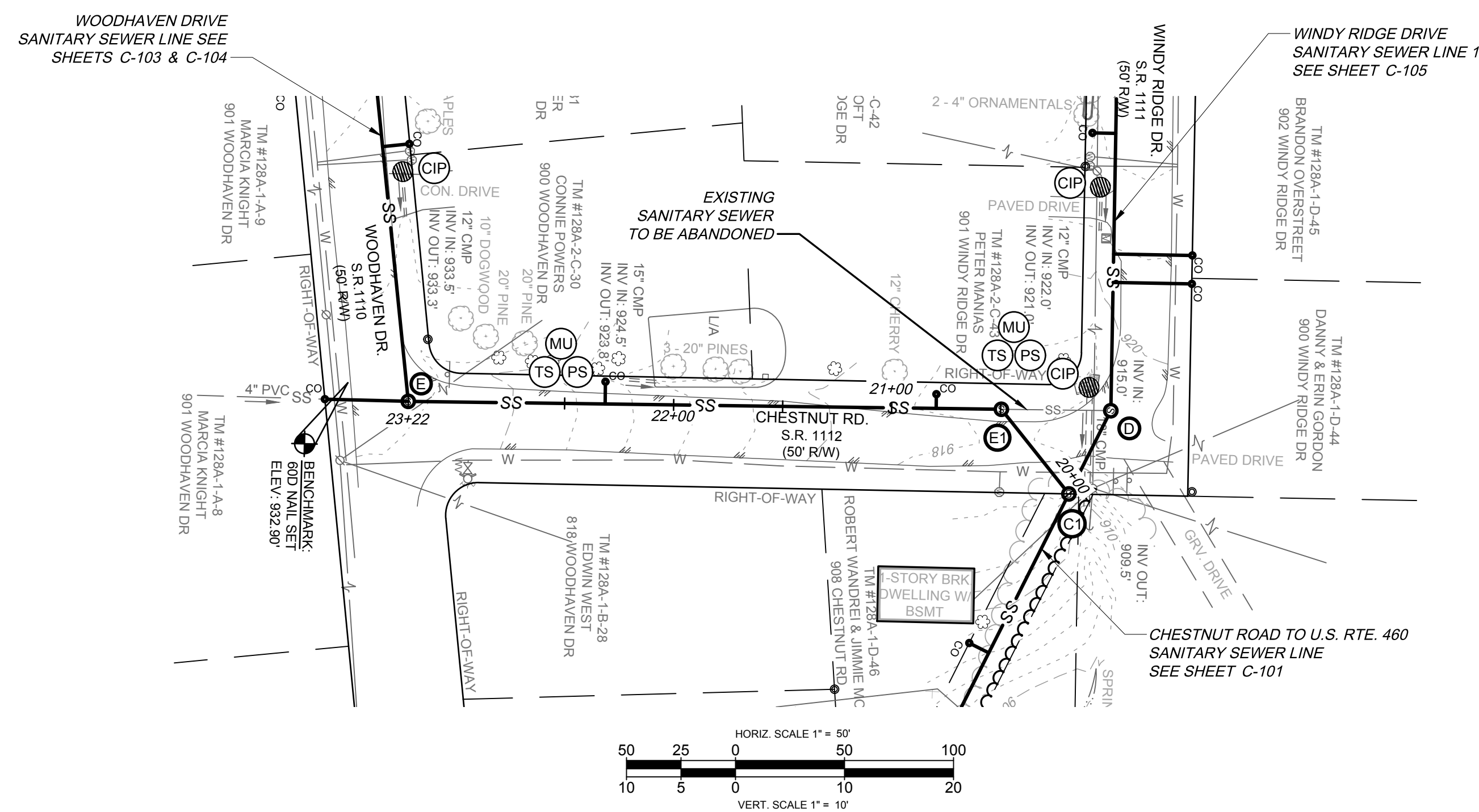
PROJECT NO.	20210409
LAT.	37.329998°
LONG.	-79.546684°
DATE:	7/21/2022
DRAWN BY:	ZPJ
CHECKED BY:	MDW



**APPROVED FOR CONSTRUCTION**

BRWA JOB NO.  
2021-004

THIS SHEET IS INTENDED TO BE REPRODUCED AT 24X36. REPRODUCTION OF THIS SHEET AT A DIFFERENT SIZE THAN INTENDED SHALL VOID THE SCALE SHOWN ON THE SHEET.



CHESTNUT ROAD SANITARY SEWER

- NOTES:**
- EXISTING SANITARY SEWER TO BE REPLACED IN THE SAME TRENCH. NEW TRENCH BOTTOM MAY BE LOWER IN SOME LOCATIONS TO PROVIDE SUFFICIENT COVER OVER PIPE.
  - CONTRACTOR TO PROVIDE BYPASS PUMPING.
  - ALL MANHOLES WILL BE REPLACED.
  - ALL EXISTING ACTIVE SERVICES TO HAVE CLEANOUTS. IN SOME CASES AN EXISTING CLEANOUT WAS NOT FOUND. IN THOSE CASES CONTRACTOR TO INSTALL CLEANOUT ON EXISTING SERVICE WHEN LOCATED DURING CONSTRUCTION.

**SANITARY STRUCTURE SCHEDULE**

Structure	Station	Top Elevation	Notes
C1	20+00	915.94	NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 9.37'
E	23+22	932.30	NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 9.20'
E1	20+50	917.29	NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 6.73'

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CHESTNUT ROAD SANITARY SEWER  
FOR  
BRWA TOWN & COUNTRY SEWER REPLACEMENT  
BEDFORD, VIRGINIA

PROJECT NO.	20210409
LAT.	37.329998°
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DATE:	7/21/2022
DRAWN BY:	ZPJ
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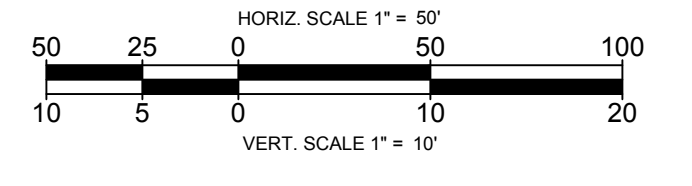
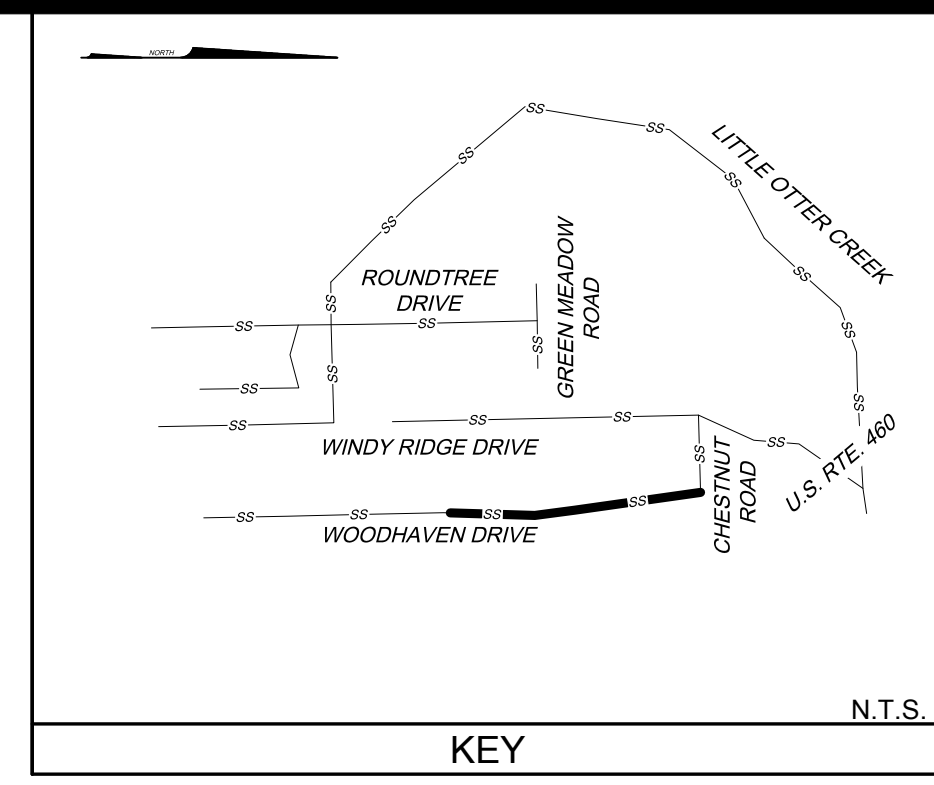
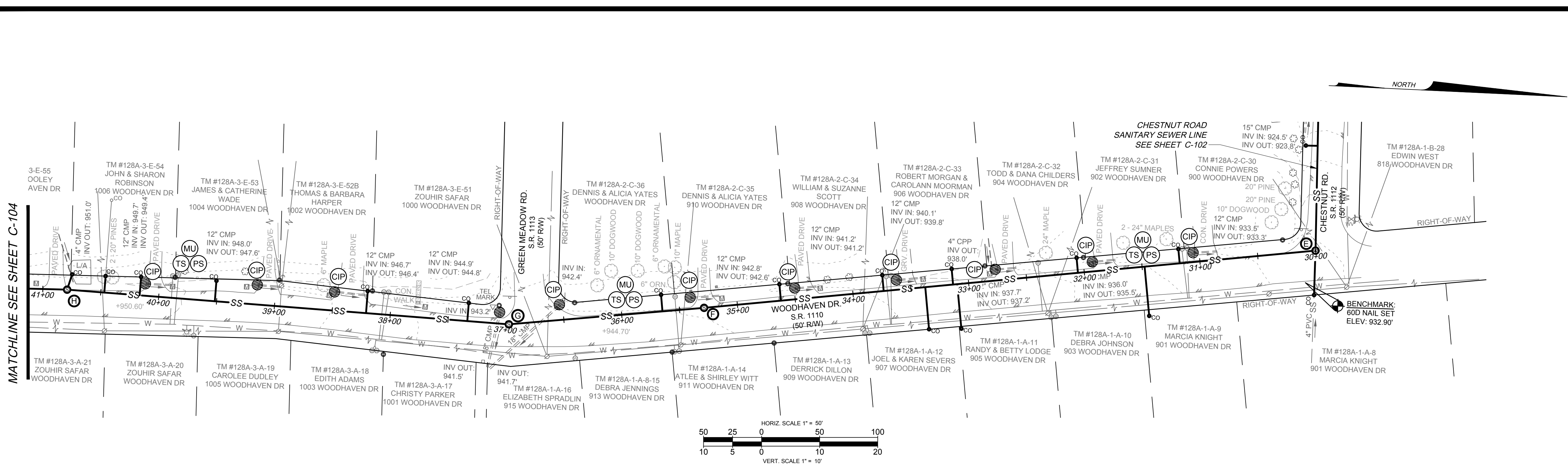


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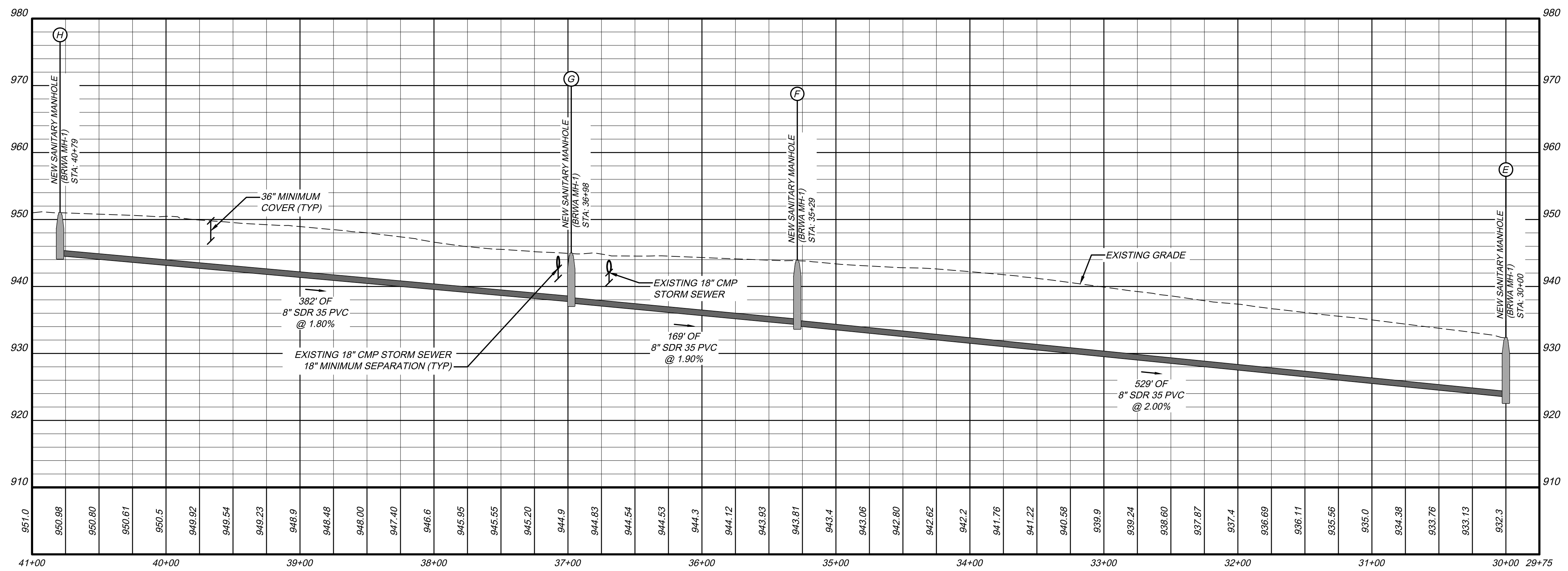
BRWA JOB NO. 2021-004

Jul 21, 2022 - 2:55pm I:\DATA\01\Projects\2021\20210409\Engineering\CAD\Town and Country Sewer Plan.dwg

THIS SHEET IS INTENDED TO BE REPRODUCED AT A DIFFERENT SIZE THAN INTENDED SHALL VOID THE SCALE SHOWN ON THE SHEET.



MATCHLINE SEE SHEET C-104



WOODHAVEN DRIVE SANITARY SEWER

- NOTES:**
- EXISTING SANITARY SEWER TO BE REPLACED IN THE SAME TRENCH, NEW TRENCH BOTTOM MAY BE LOWER IN SOME LOCATIONS TO PROVIDE SUFFICIENT COVER OVER PIPE.
  - CONTRACTOR TO PROVIDE BYPASS PUMPING.
  - ALL MANHOLES WILL BE REPLACED.
  - ALL EXISTING ACTIVE SERVICES TO HAVE CLEANOUTS. IN SOME CASES AN EXISTING CLEANOUT WAS NOT FOUND. IN THOSE CASES CONTRACTOR TO INSTALL CLEANOUT ON EXISTING SERVICE WHEN LOCATED DURING CONSTRUCTION.

**SANITARY STRUCTURE SCHEDULE**

	NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 9.20' STA: 30+00 TOP: 932.30 N: 3646601.55 E: 11179323.64 INV IN=924.90 FROM N/A DEFLECTION: 0.99° R INV IN=923.60 FROM F DEFLECTION: 83.48° R INV OUT=923.10
E	NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 9.66' STA: 35+29 TOP: 943.84 N: 3646077.92 E: 11179397.67 INV IN=934.38 FROM G DEFLECTION: 0.51° R INV OUT=934.18
F	NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 7.33' STA: 36+98 TOP: 944.92 N: 3645910.69 E: 11179419.79 INV IN=937.79 FROM H DEFLECTION: 9.32° R INV OUT=937.59
G	NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 6.32' STA: 40+79 TOP: 950.98 N: 3645529.33 E: 11179407.87 INV IN=944.86 FROM I DEFLECTION: 3.00° L INV IN=947.10 FROM N/A DEFLECTION: 103.71° R INV OUT=944.66
H	

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WOODHAVEN DRIVE SANITARY SEWER  
FOR  
BRWA TOWN & COUNTRY SEWER REPLACEMENT  
BEDFORD, VIRGINIA

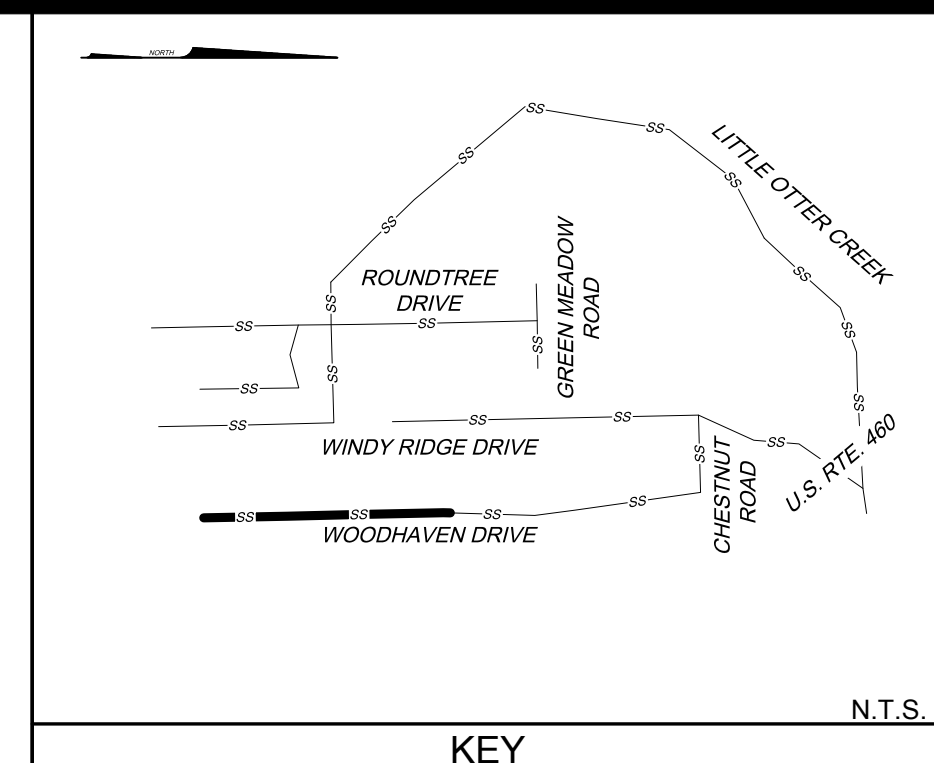
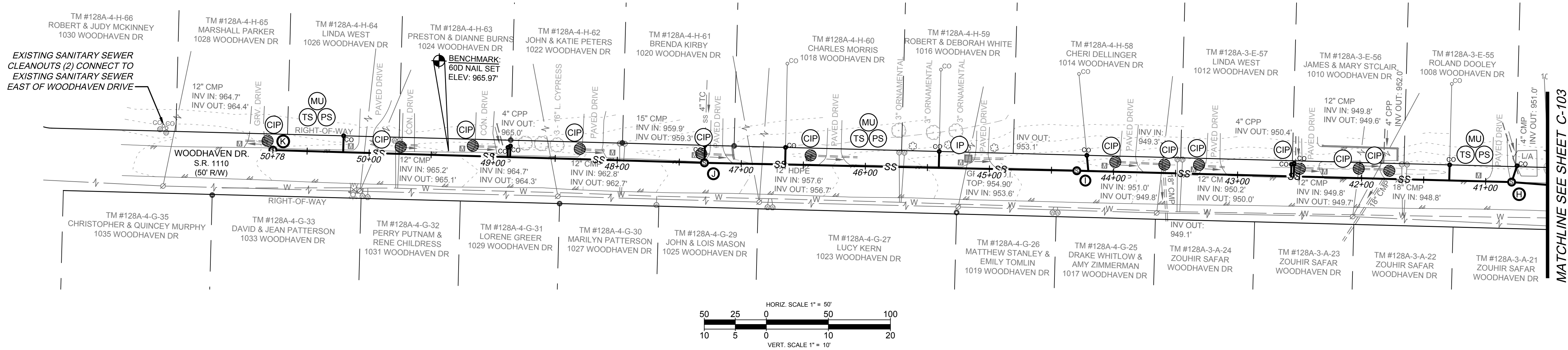
PROJECT NO.	20210409
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DATE:	7/21/2022
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**APPROVED FOR CONSTRUCTION**

BRWA JOB NO.  
2021-004

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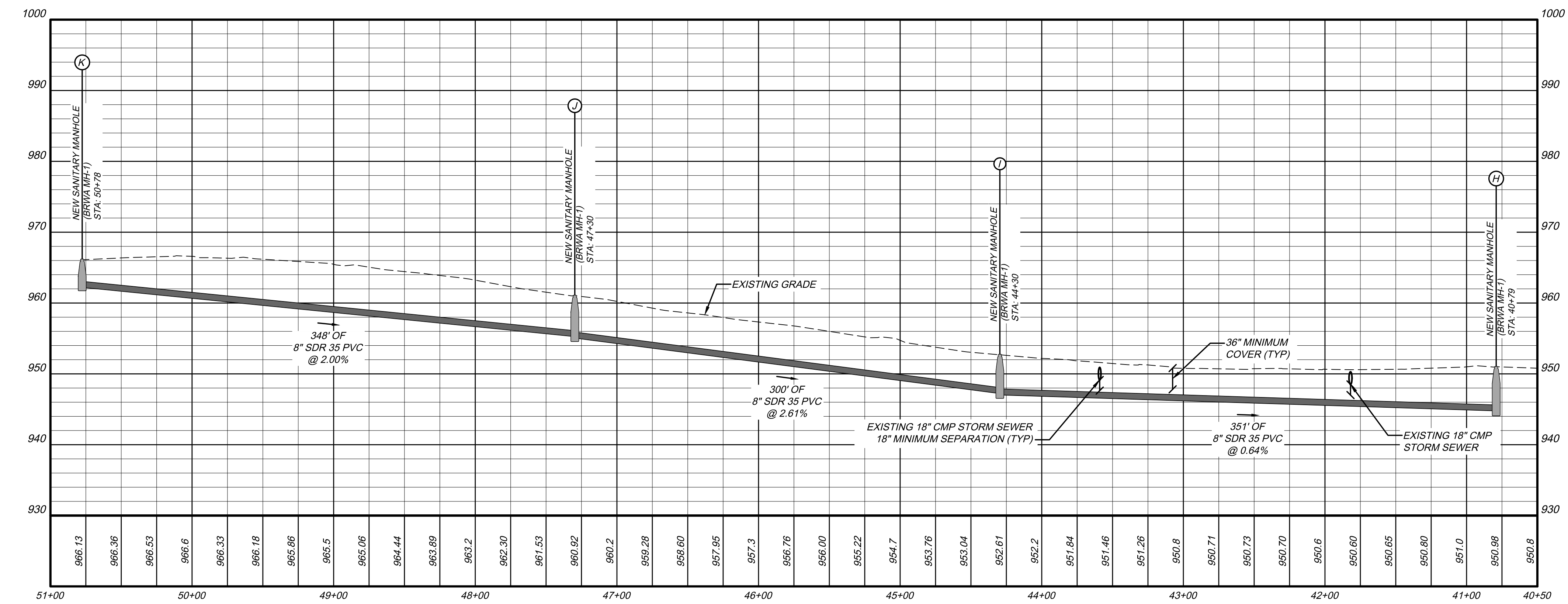
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**SANITARY STRUCTURE SCHEDULE**

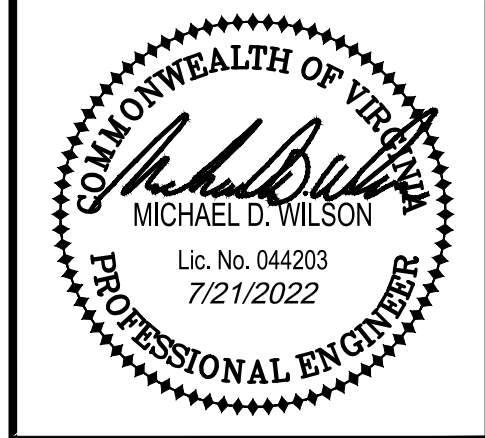
H	NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 6.32' STA: 40+79 TOP: 950.98 N: 3645529.33 E: 11179407.87 INV IN=944.86 FROM I DEFLECTION: 3.00" L INV IN=947.10 FROM N/A DEFLECTION: 103.71" R INV OUT=944.66
I	NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 5.58' STA: 44+30 TOP: 952.69 N: 3645178.89 E: 11179415.26 INV IN=947.31 FROM J DEFLECTION: 0.28" L INV OUT=947.11
J	NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 5.89' STA: 47+30 TOP: 961.03 N: 3644878.85 E: 11179423.03 INV IN=955.34 FROM K DEFLECTION: 0.47" R INV IN=957.30 FROM N/A DEFLECTION: 90.62" R INV OUT=955.14
K	NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 3.83' STA: 50+78 TOP: 966.13 N: 3644531.03 E: 11179429.18 INV OUT=962.30



WOODHAVEN DRIVE SANITARY SEWER

WOODHAVEN DRIVE SANITARY SEWER  
FOR  
BRWA TOWN & COUNTRY SEWER REPLACEMENT  
BEDFORD, VIRGINIA

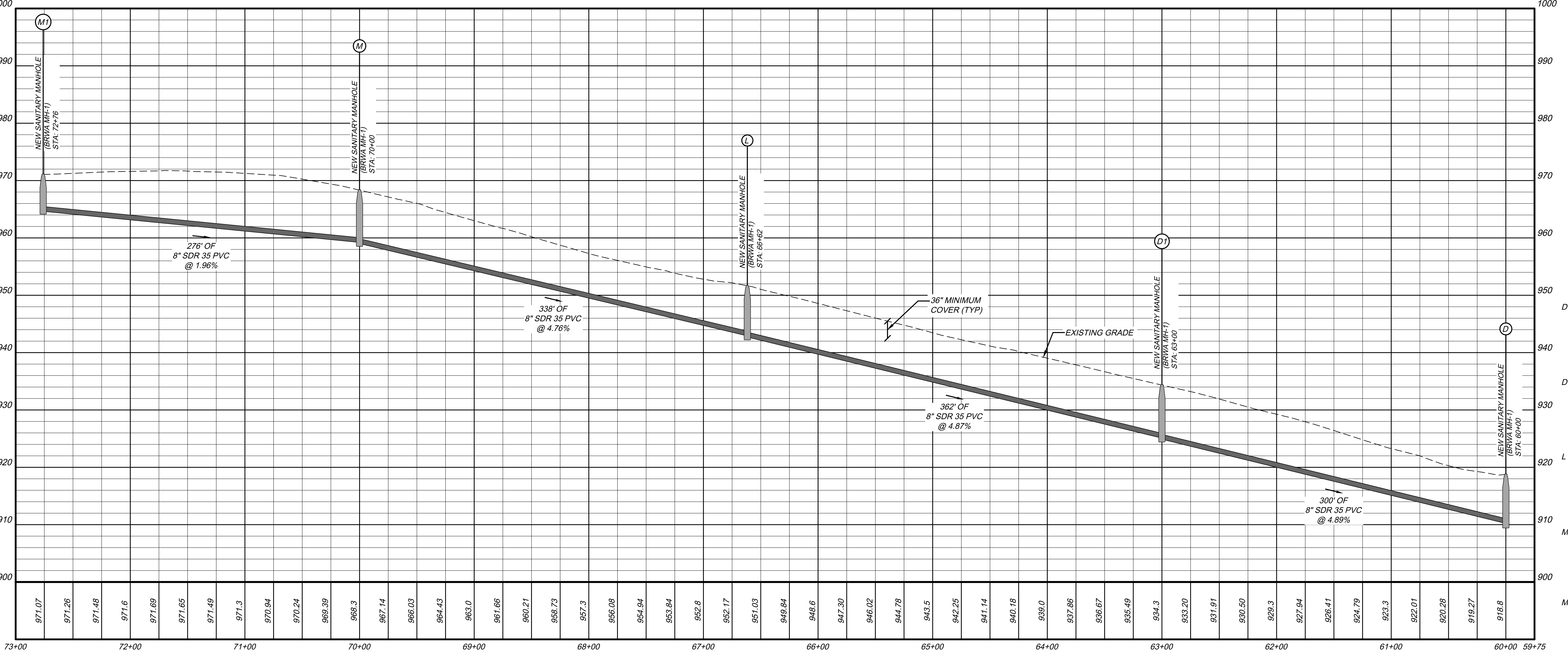
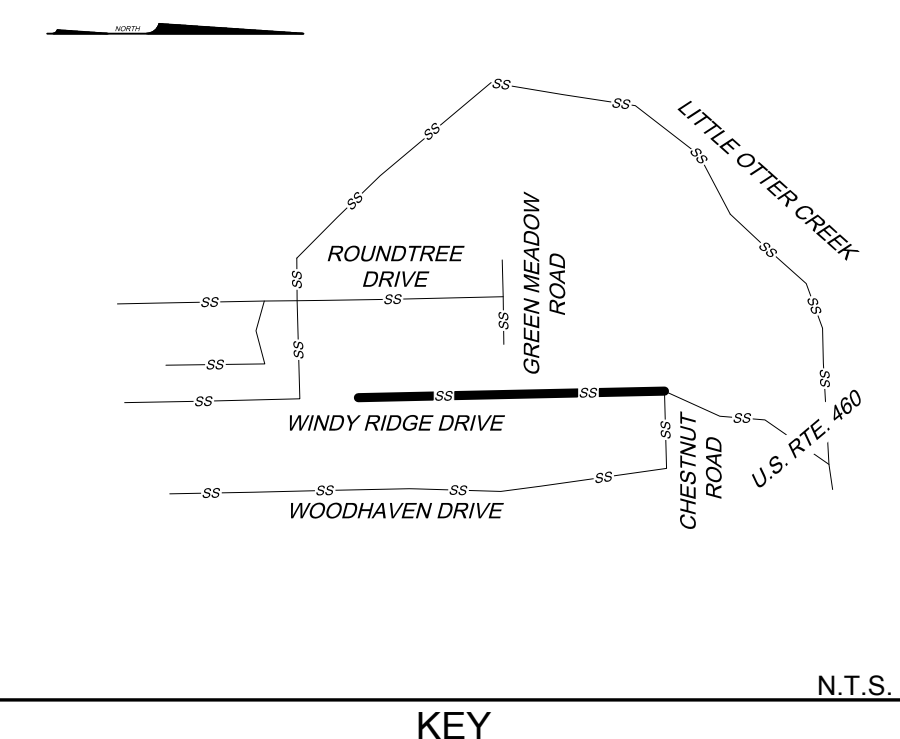
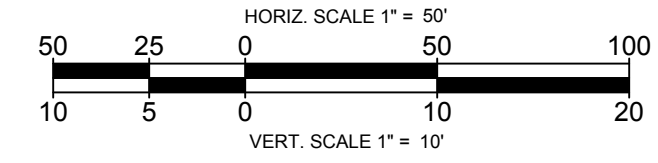
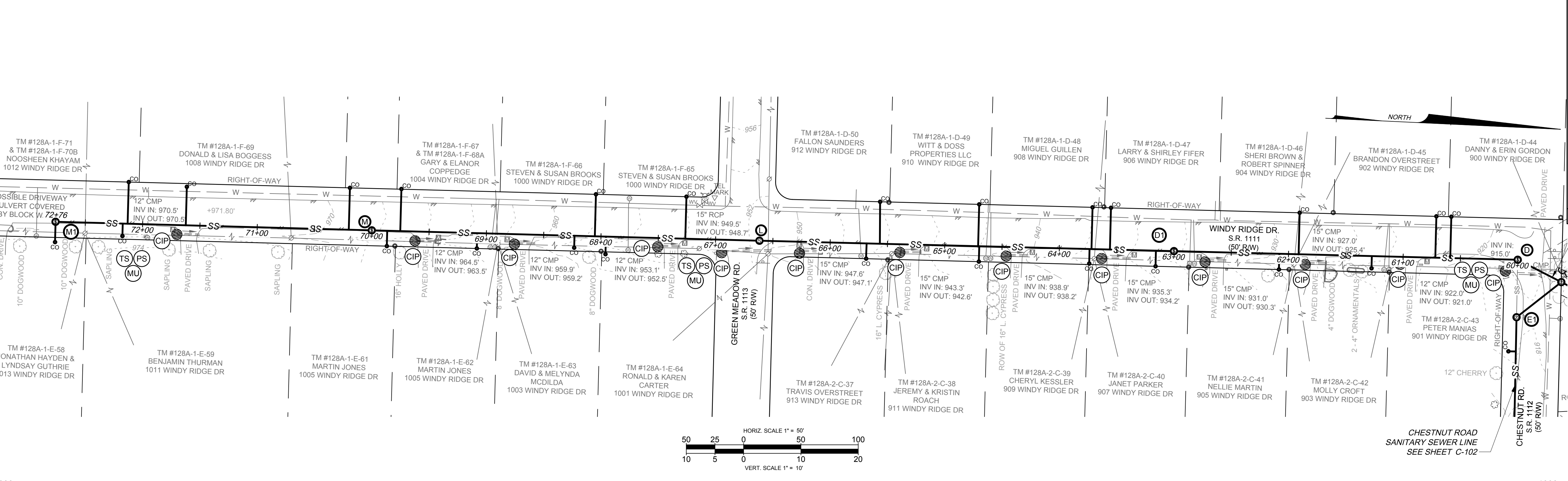
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LONG.	-79.546684°
DATE:	7/21/2022
DRAWN BY:	ZPJ
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**APPROVED FOR CONSTRUCTION**

BRWA JOB NO.  
2021-004

THIS SHEET IS INTENDED TO BE REPRODUCED AT A DIFFERENT SIZE THAN INTENDED SHALL VOID THE SCALE SHOWN ON THE SHEET.



WINDY RIDGE DRIVE SANITARY SEWER LINE 1

- NOTES:**
- EXISTING SANITARY SEWER TO BE REPLACED IN THE SAME TRENCH. NEW TRENCH BOTTOM MAY BE LOWER IN SOME LOCATIONS TO PROVIDE SUFFICIENT COVER OVER PIPE.
  - CONTRACTOR TO PROVIDE BYPASS PUMPING.
  - ALL MANHOLES WILL BE REPLACED.
  - ALL EXISTING ACTIVE SERVICES TO HAVE CLEANOUTS. IN SOME CASES AN EXISTING CLEANOUT WAS NOT FOUND. IN THOSE CASES CONTRACTOR TO INSTALL CLEANOUT ON EXISTING SERVICE WHEN LOCATED DURING CONSTRUCTION.

**SANITARY STRUCTURE SCHEDULE**

NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 8.76'
STA: 60+00
TOP: 918.76
N: 3646592.97
E: 11179001.50
INV IN=910.30 FROM D1 DEFLECTION: 25.72" L
INV OUT=910.00
NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 9.36'
STA: 63+00
TOP: 934.34
N: 3646293.04
E: 11179008.11
INV IN=925.18 FROM L DEFLECTION: 0.00"
INV OUT=924.98
NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 8.85'
STA: 66+62
TOP: 951.65
N: 3645931.41
E: 11179016.07
INV IN=943.00 FROM M DEFLECTION: 0.09" R
INV OUT=942.80
NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 9.23'
STA: 70+00
TOP: 968.33
N: 3645593.18
E: 11179022.96
INV IN=959.30 FROM M1 DEFLECTION: 0.02" R
INV OUT=959.10
NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 6.35'
STA: 72+76
TOP: 971.07
N: 3645317.26
E: 11179028.49
INV OUT=964.72

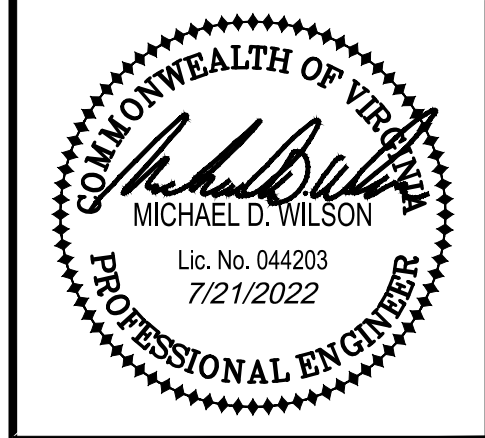
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WINDY RIDGE DRIVE SANITARY SEWER LINE 1  
FOR  
BRWA TOWN & COUNTRY SEWER REPLACEMENT  
BEDFORD, VIRGINIA

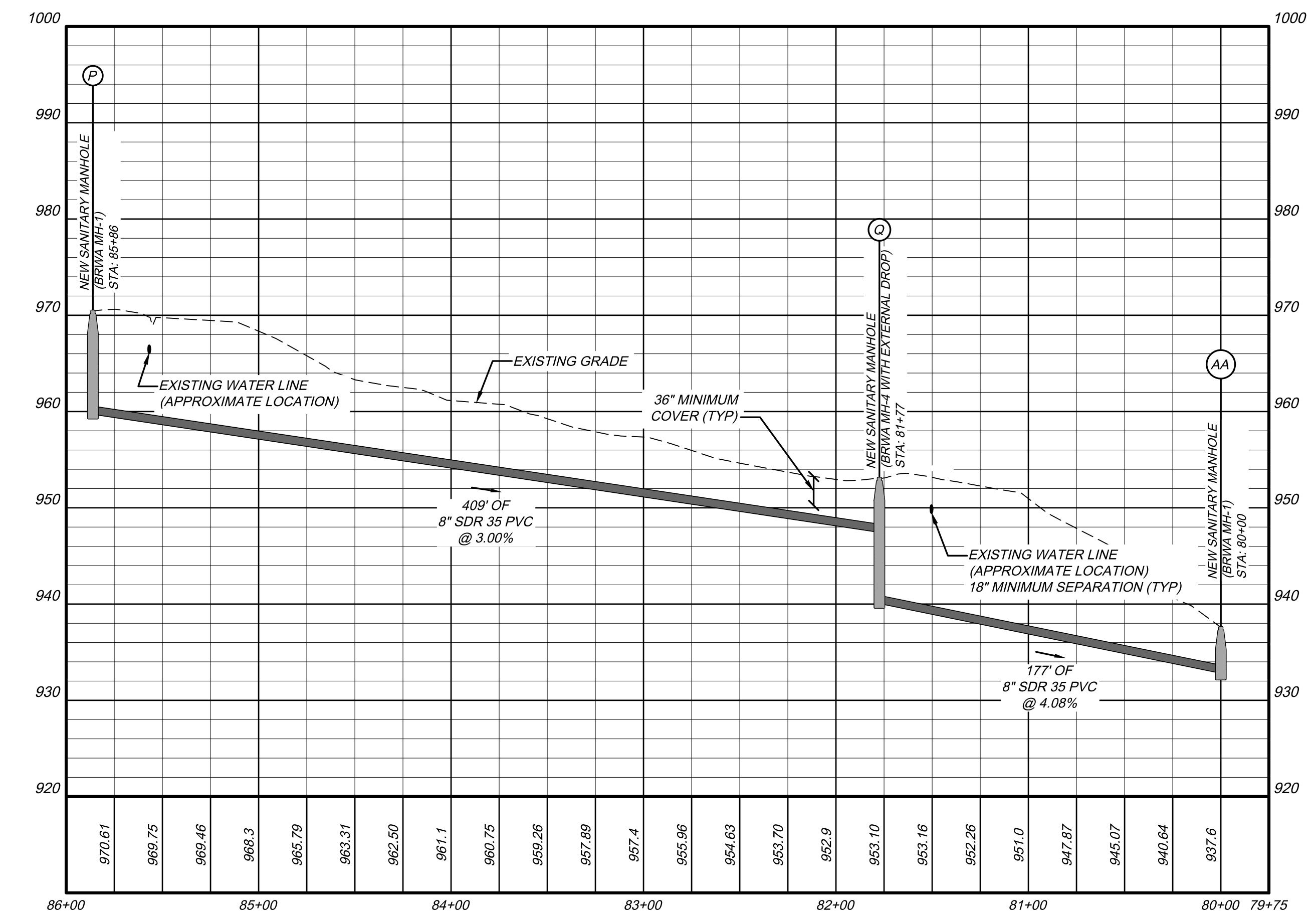
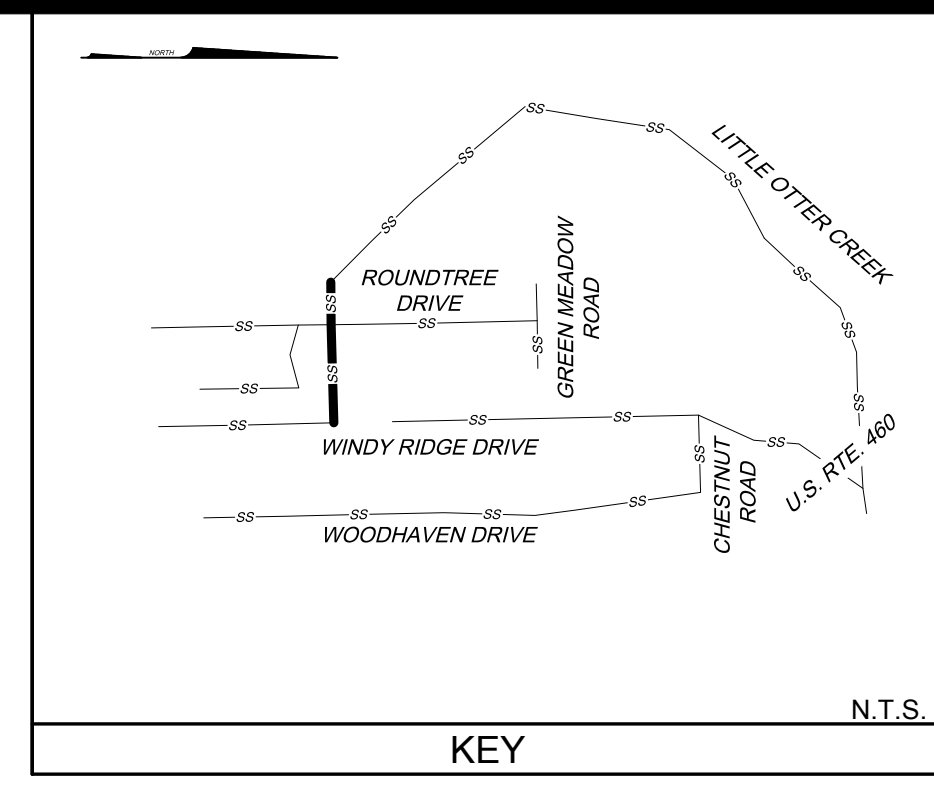
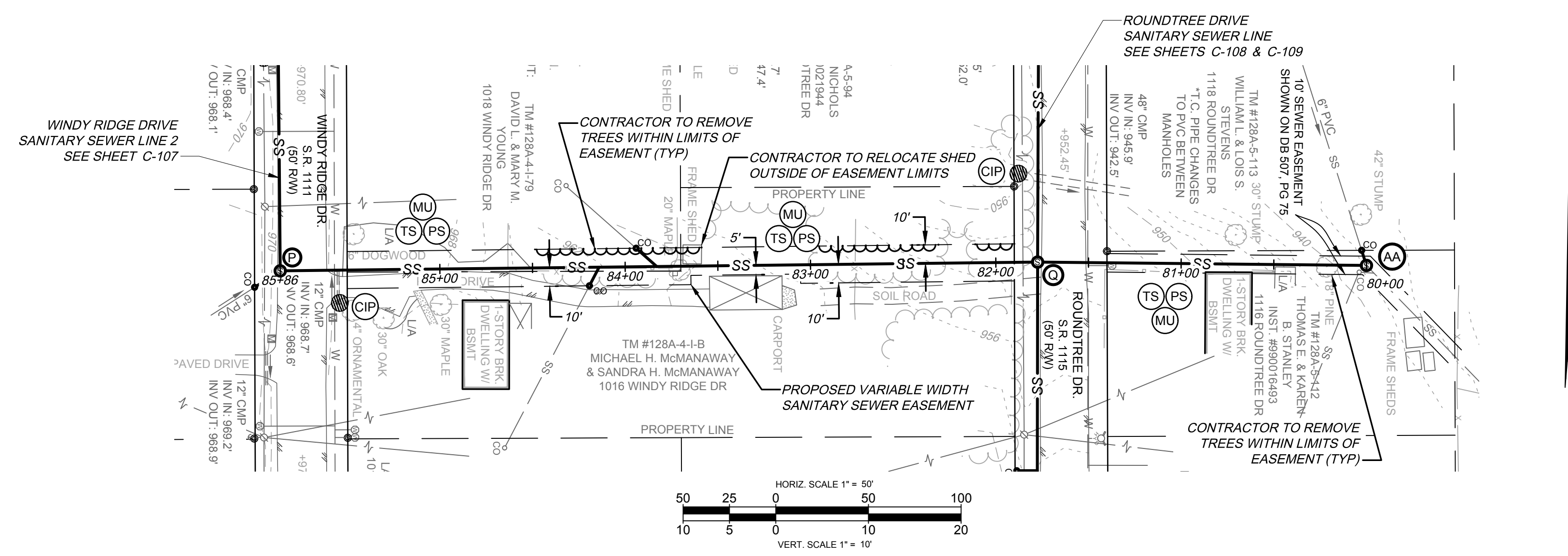
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**APPROVED FOR CONSTRUCTION**

BRWA JOB NO.  
2021-004

THIS SHEET IS INTENDED TO BE REPRODUCED AT 20X SIZE. REPRODUCTION OF THIS SHEET AT A DIFFERENT SIZE THAN INTENDED SHALL VOID THE SCALE SHOWN ON THE SHEET.



ROUNTREE DRIVE TO WINDY RIDGE DRIVE SANITARY SEWER

**NOTES:**

- EXISTING SANITARY SEWER TO BE REPLACED IN THE SAME TRENCH. NEW TRENCH BOTTOM MAY BE LOWER IN SOME LOCATIONS TO PROVIDE SUFFICIENT COVER OVER PIPE.
- CONTRACTOR TO PROVIDE BYPASS PUMPING.
- ALL MANHOLES WILL BE REPLACED.
- ALL EXISTING ACTIVE SERVICES TO HAVE CLEANOUTS. IN SOME CASES AN EXISTING CLEANOUT WAS NOT FOUND. IN THOSE CASES CONTRACTOR TO INSTALL CLEANOUT ON EXISTING SERVICE WHEN LOCATED DURING CONSTRUCTION.

**SANITARY STRUCTURE SCHEDULE**

AA	NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 4.89' STA: 80+00 TOP: 937.59 N: 3645060.45 E: 11178447.42 INV IN=932.90 FROM Q DEFLECTION: 45.24° L INV IN=934.30 FROM N/A DEFLECTION: 26.53° R INV OUT=932.70
P	NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 10.66' STA: 85+86 TOP: 970.46 N: 3645073.49 E: 11179033.38 INV IN=960.30 FROM O DEFLECTION: 90.16° R INV IN=961.20 FROM N/A DEFLECTION: 32.00° L INV OUT=959.80
Q	NEW SANITARY MANHOLE (BRWA MH-4 WITH EXTERNAL DROP) 48" DIA.; H = 12.96' STA: 81+77 TOP: 953.10 N: 3645061.70 E: 11178624.84 INV IN=947.54 FROM P DEFLECTION: 1.25° L INV IN=940.64 FROM R DEFLECTION: 89.63° R INV IN=940.64 FROM X DEFLECTION: 90.49° L INV IN (DROP)=930.34 DEFLECTION: 1.25° L INV OUT=940.14

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ROUNDTREE DRIVE TO WINDY RIDGE DRIVE SANITARY SEWER  
FOR  
BRWA TOWN & COUNTRY SEWER REPLACEMENT  
BEDFORD, VIRGINIA

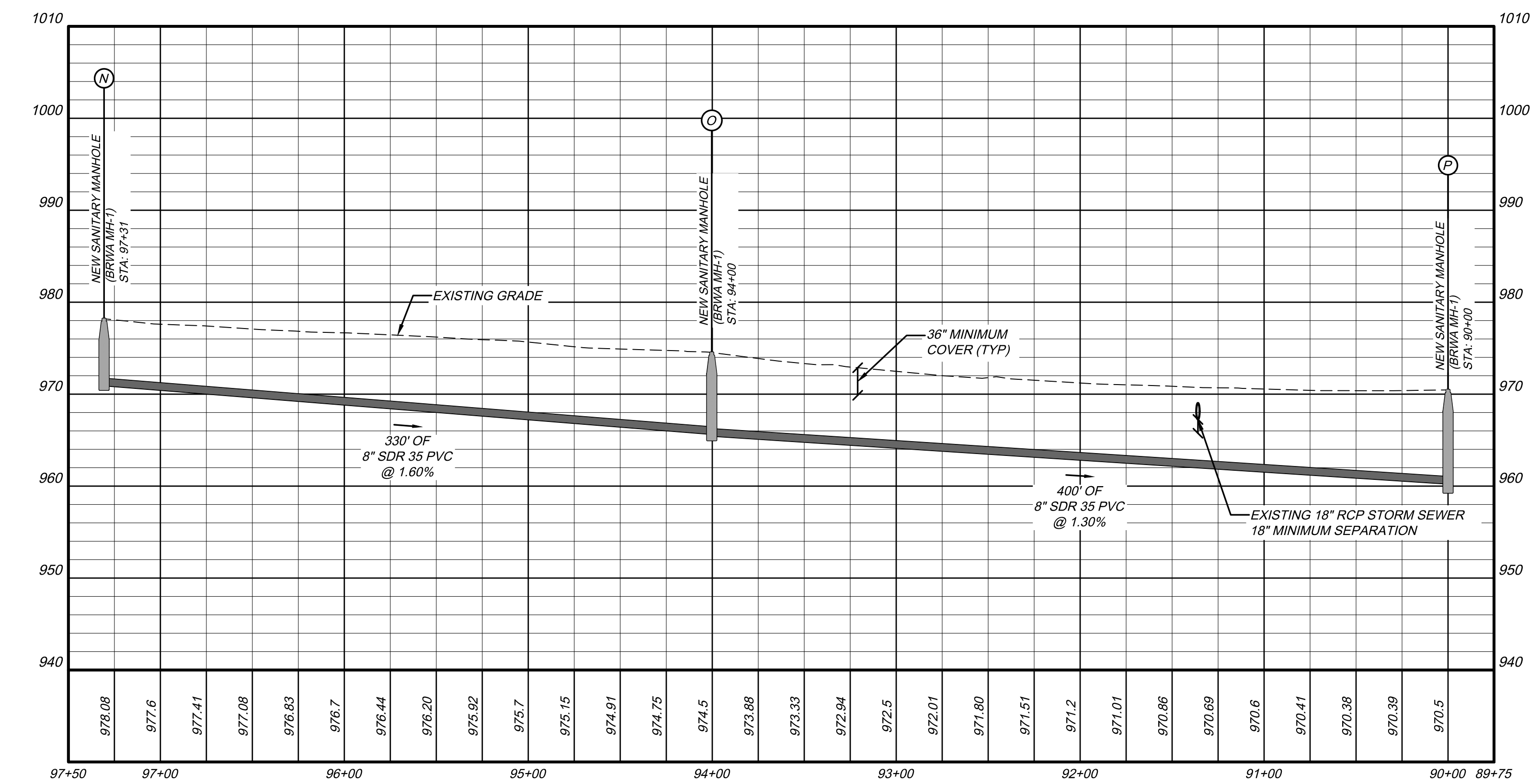
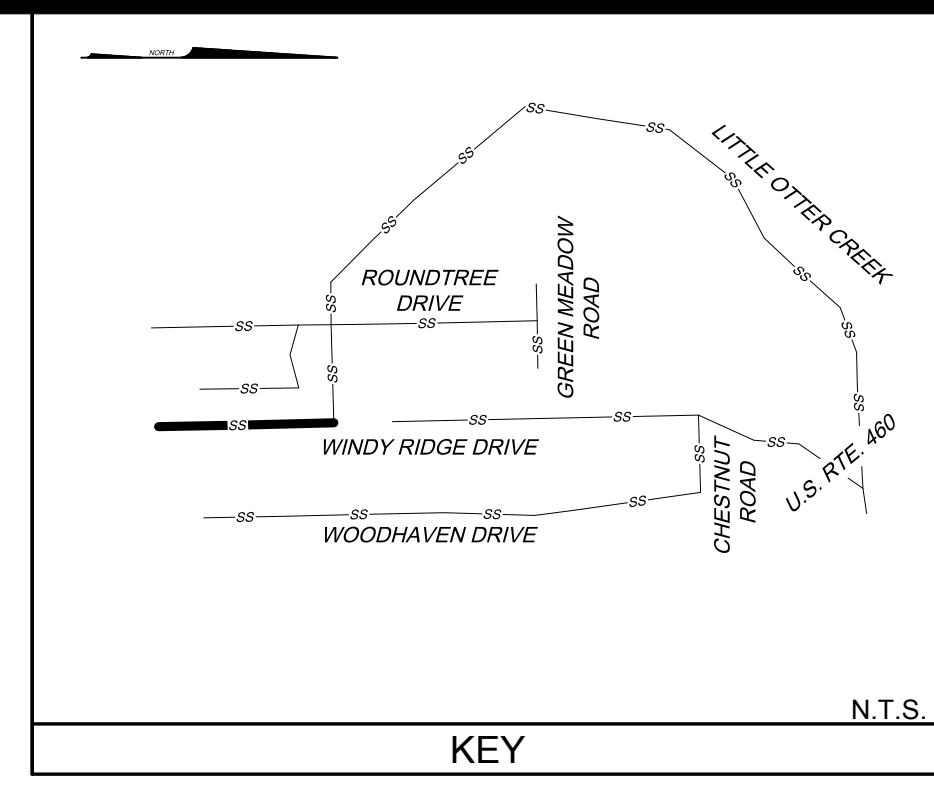
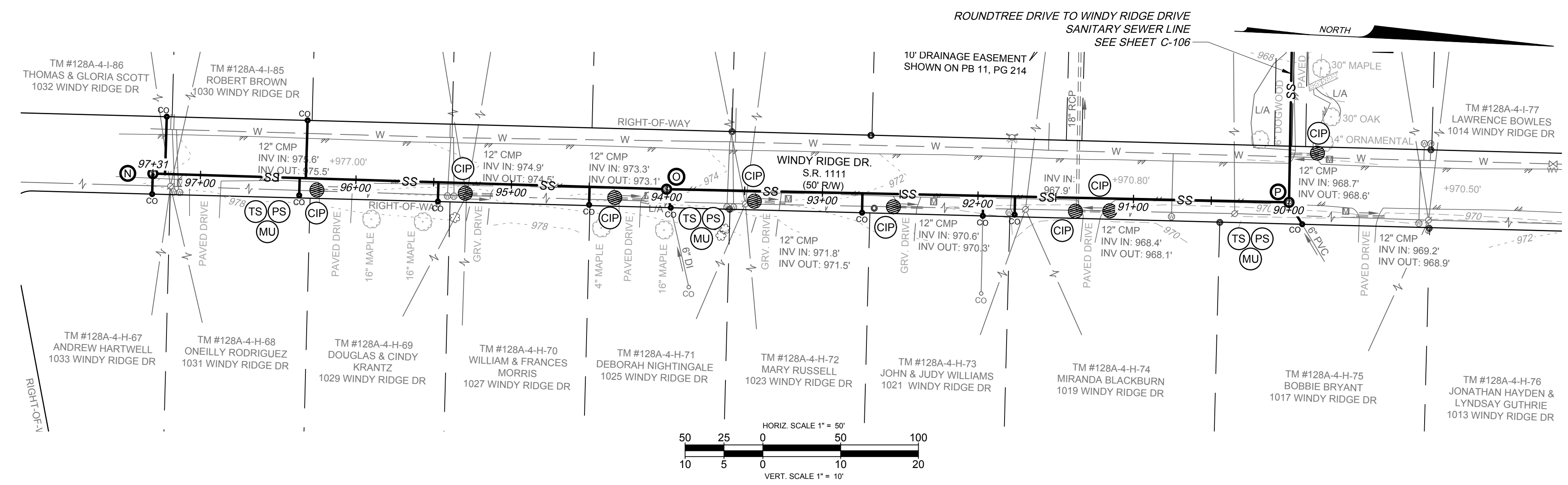
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**APPROVED FOR CONSTRUCTION**

BRWA JOB NO.  
2021-004

THIS SHEET IS INTENDED TO BE REPRODUCED AT 100% SCALE. REPRODUCTION OF THIS SHEET AT A DIFFERENT SIZE THAN INTENDED SHALL VOID THE SCALE SHOWN ON THE SHEET.



- NOTES:**
- EXISTING SANITARY SEWER TO BE REPLACED IN THE SAME TRENCH. NEW TRENCH BOTTOM MAY BE LOWER IN SOME LOCATIONS TO PROVIDE SUFFICIENT COVER OVER PIPE.
  - CONTRACTOR TO PROVIDE BYPASS PUMPING.
  - ALL MANHOLES WILL BE REPLACED.
  - ALL EXISTING ACTIVE SERVICES TO HAVE CLEANOUTS. IN SOME CASES AN EXISTING CLEANOUT WAS NOT FOUND. IN THOSE CASES CONTRACTOR TO INSTALL CLEANOUT ON EXISTING SERVICE WHEN LOCATED DURING CONSTRUCTION.

**SANITARY STRUCTURE SCHEDULE**

N	NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 7.21' STA: 97+31 TOP: 978.19 N: 3644343.04 E: 11179049.34 INV OUT=970.99
O	NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 9.02' STA: 94+00 TOP: 974.52 N: 3644673.37 E: 11179043.79 INV IN=965.70 FROM N DEFLECTION: 0.53° R INV IN=967.40 FROM N/A DEFLECTION: 104.03° L INV OUT=965.50
P	NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 10.66' STA: 90+00 TOP: 970.46 N: 3645073.49 E: 11179033.38 INV IN=960.30 FROM O DEFLECTION: 90.16° R INV IN=961.20 FROM N/A DEFLECTION: 32.00° L INV OUT=959.80

WINDY RIDGE DRIVE SANITARY SEWER LINE 2

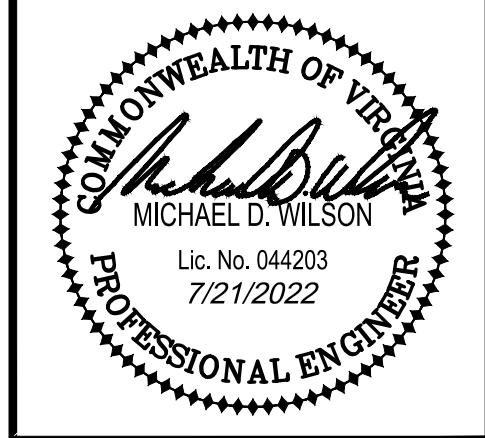
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WINDY RIDGE DRIVE SANITARY SEWER LINE 2  
FOR  
**BRWA TOWN & COUNTRY SEWER REPLACEMENT**  
BEDFORD, VIRGINIA

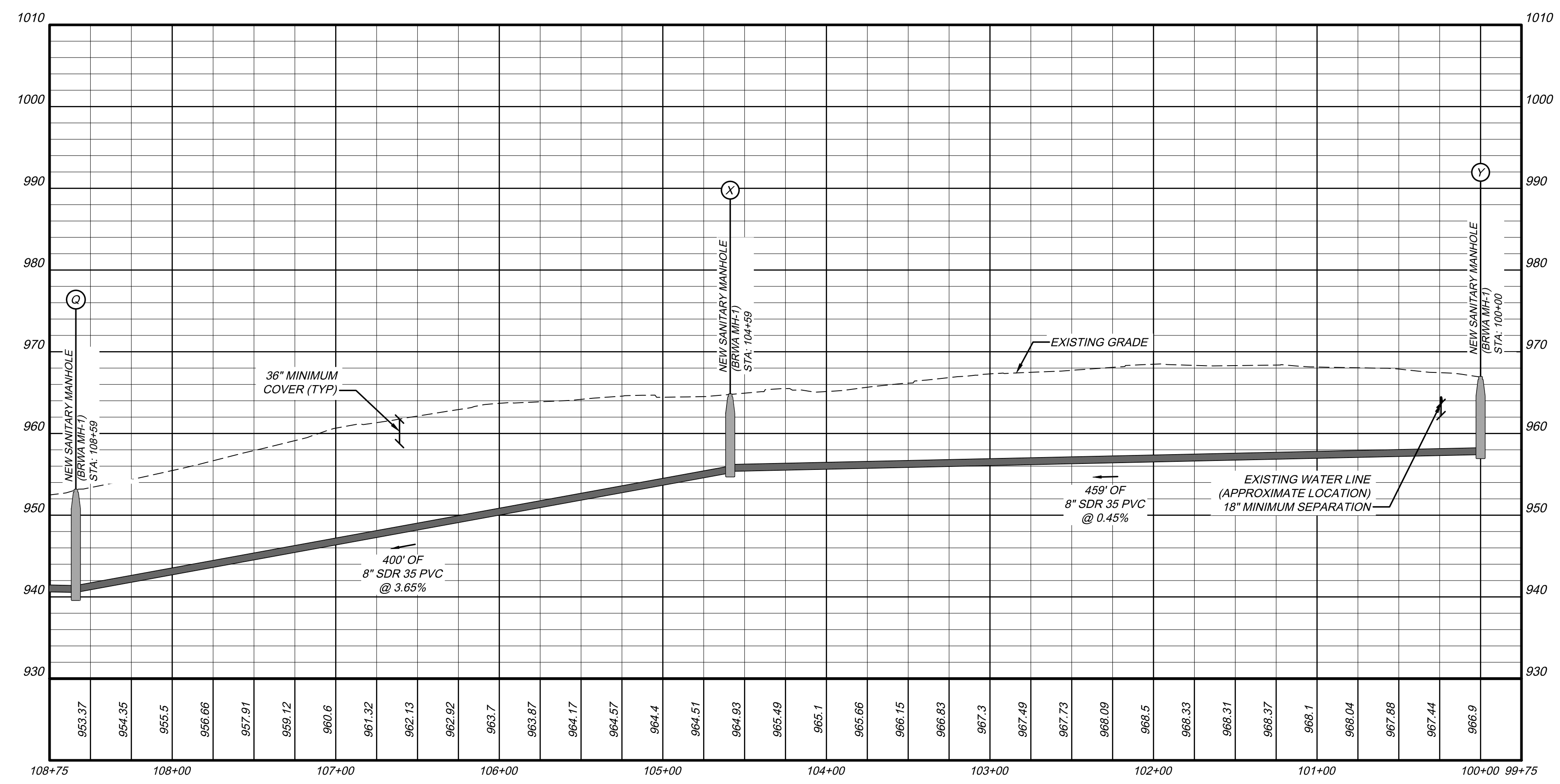
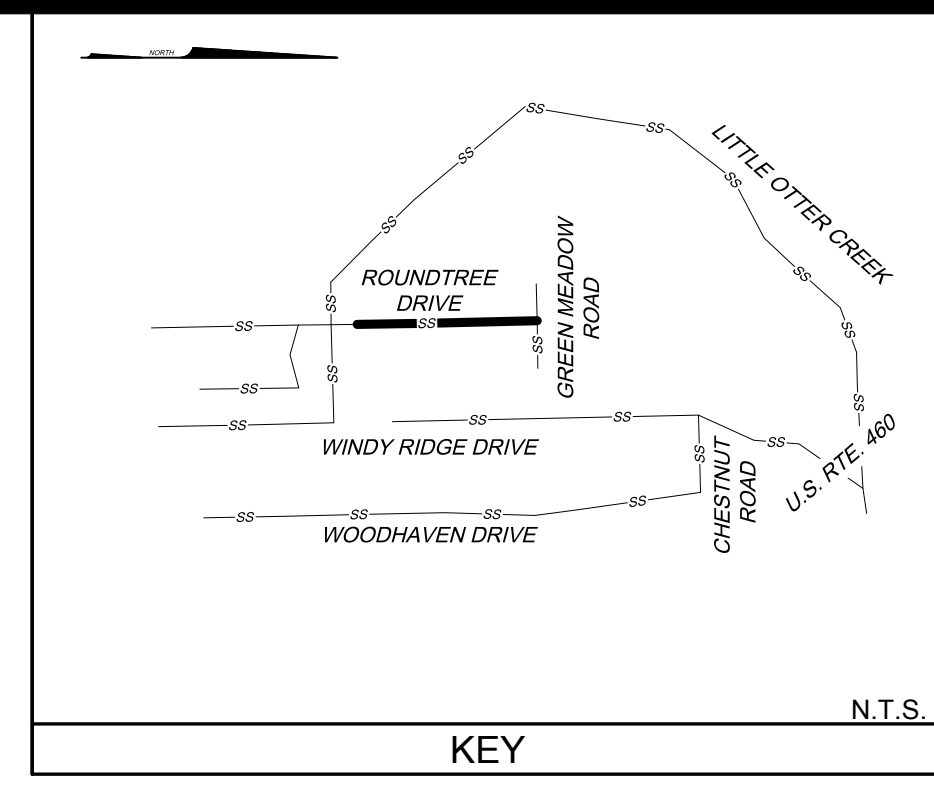
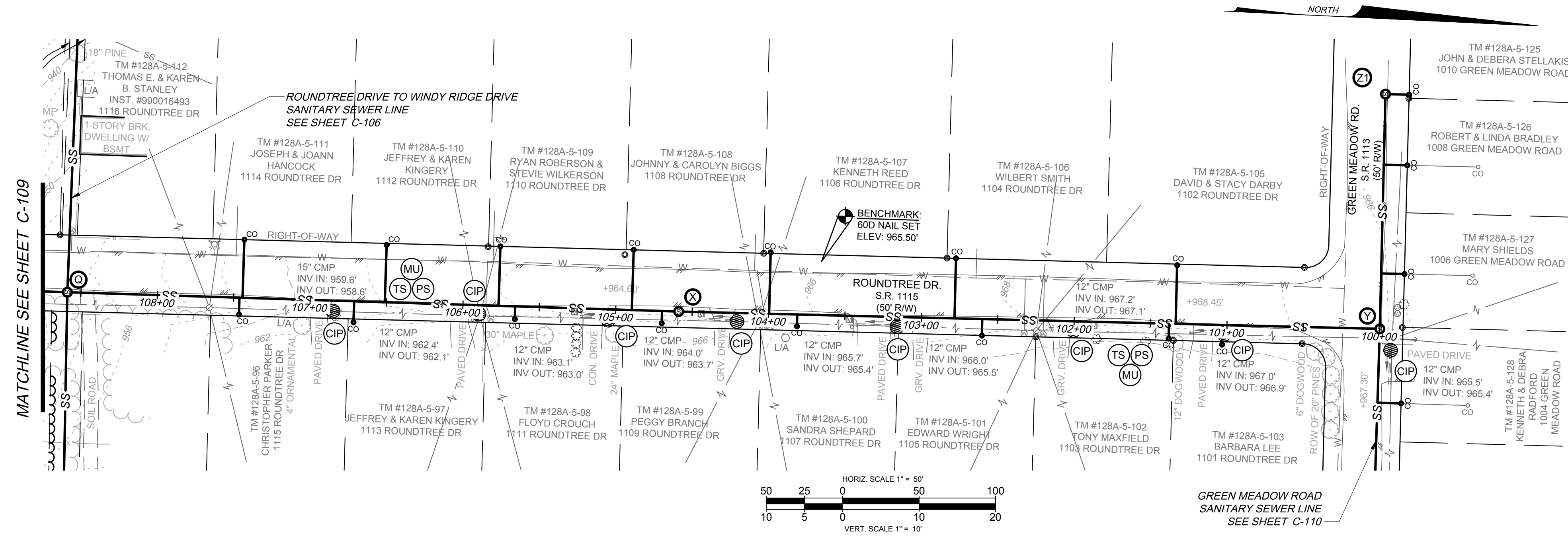
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DATE:	7/21/2022
DRAWN BY:	ZPJ
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**APPROVED FOR CONSTRUCTION**

BRWA JOB NO.  
2021-004

THIS SHEET IS INTENDED TO BE REPRODUCED AT 100% REPRODUCTION OF THIS SHEET AT A DIFFERENT SIZE THAN INTENDED SHALL VOID THE SCALE SHOWN ON THE SHEET.



ROUNDTREE DRIVE SANITARY SEWER

- NOTES:**
- EXISTING SANITARY SEWER TO BE REPLACED IN THE SAME TRENCH. NEW TRENCH BOTTOM MAY BE LOWER IN SOME LOCATIONS TO PROVIDE SUFFICIENT COVER OVER PIPE.
  - CONTRACTOR TO PROVIDE BYPASS PUMPING.
  - ALL MANHOLES WILL BE REPLACED.
  - ALL EXISTING ACTIVE SERVICES TO HAVE CLEANOUTS. IN SOME CASES AN EXISTING CLEANOUT WAS NOT FOUND. IN THOSE CASES CONTRACTOR TO INSTALL CLEANOUT ON EXISTING SERVICE WHEN LOCATED DURING CONSTRUCTION.

**SANITARY STRUCTURE SCHEDULE**

NEW SANITARY MANHOLE (BRWA MH-4 WITH EXTERNAL DROP) 48" DIA.; H = 12.96'  
 STA: 108+59  
 TOP: 953.10  
 N: 3645061.70  
 E: 11178624.84  
 INV IN=947.54 FROM P DEFLECTION: 1.25° L  
 INV IN=940.64 FROM R DEFLECTION: 89.63° R  
 INV IN=940.64 FROM N DEFLECTION: 80.49° L  
 INV IN (DROP)=930.34 DEFLECTION: 1.25° L  
 INV OUT=940.14

NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 9.52'  
 STA: 104+59  
 TOP: 964.78  
 N: 3645461.78  
 E: 11178618.61  
 INV IN=955.45 FROM Y DEFLECTION: 0.39° R  
 INV OUT=955.25

NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 9.40'  
 STA: 100+00  
 TOP: 966.90  
 N: 3645420.46  
 E: 11178608.34  
 INV IN=958.00 FROM Z1 DEFLECTION: 90.02° L  
 INV IN=958.00 FROM Z DEFLECTION: 90.40° R  
 INV OUT=957.50

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ROUNDTREE DRIVE SANITARY SEWER  
 FOR  
 BRWA TOWN & COUNTRY SEWER REPLACEMENT  
 BEDFORD, VIRGINIA

PROJECT NO.	20210409
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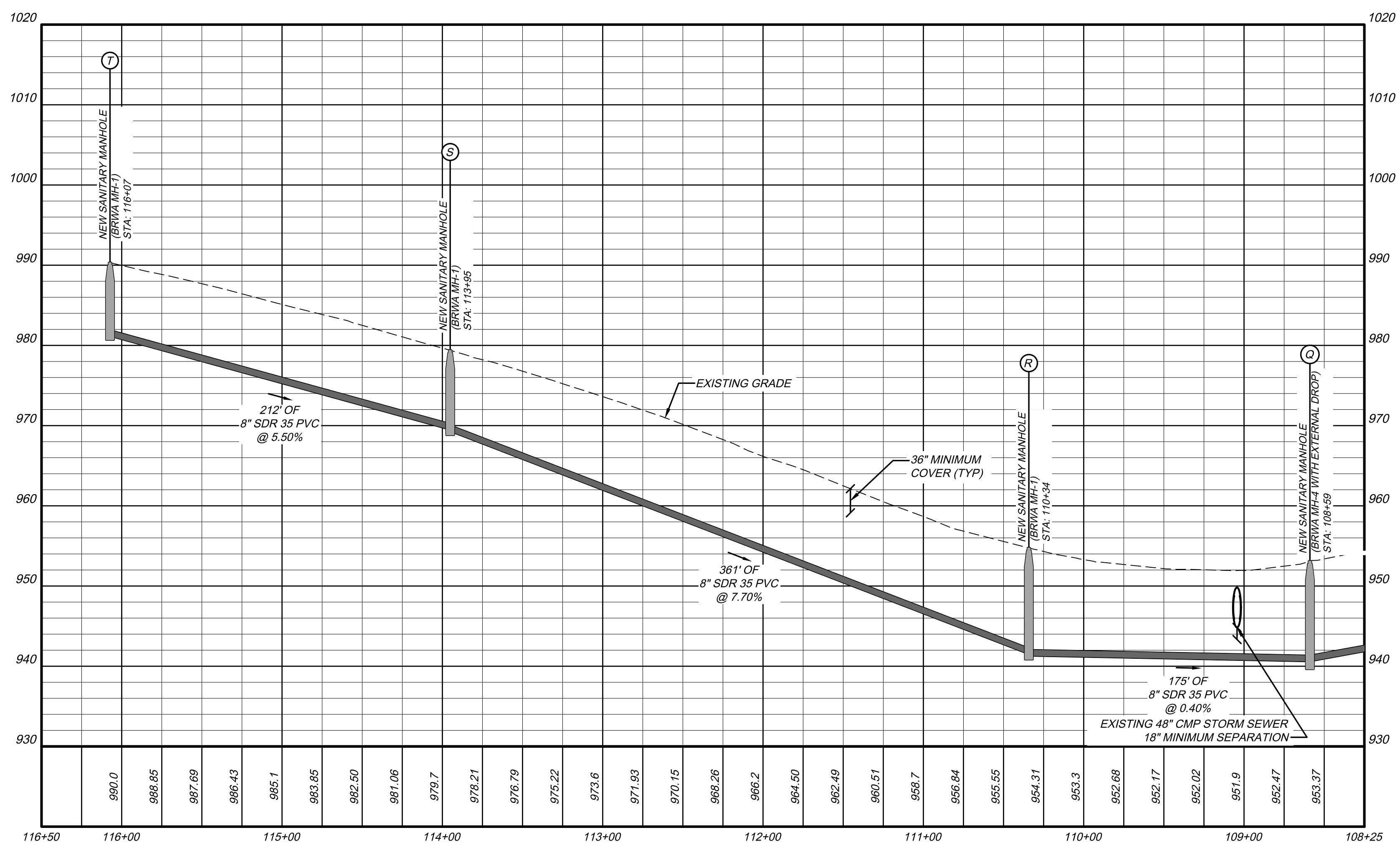
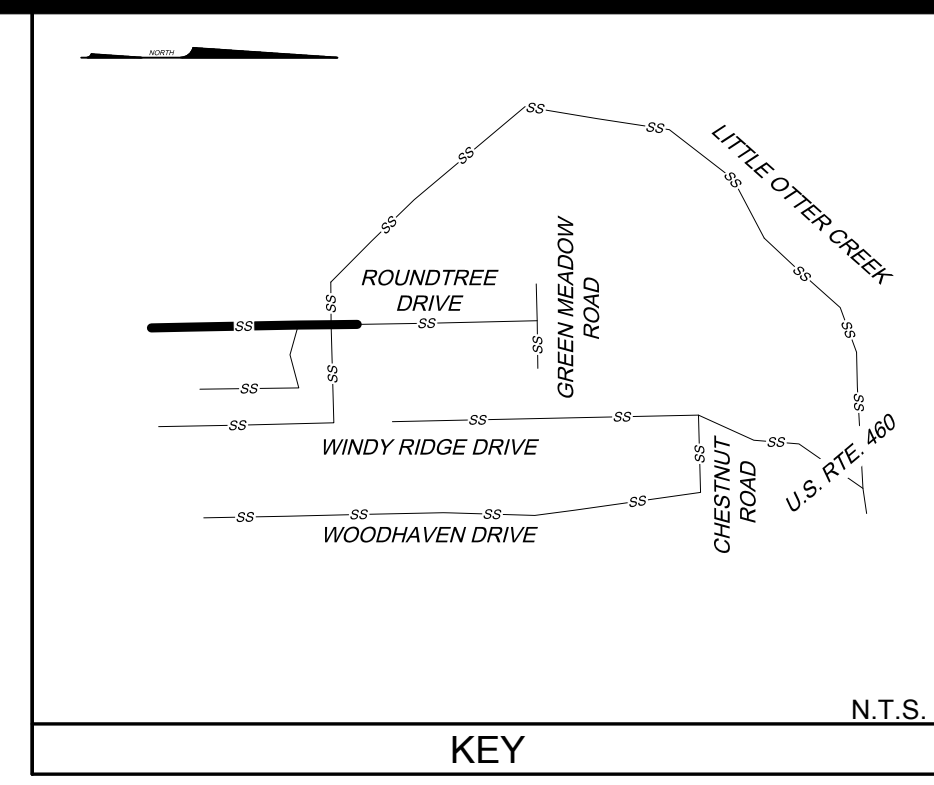
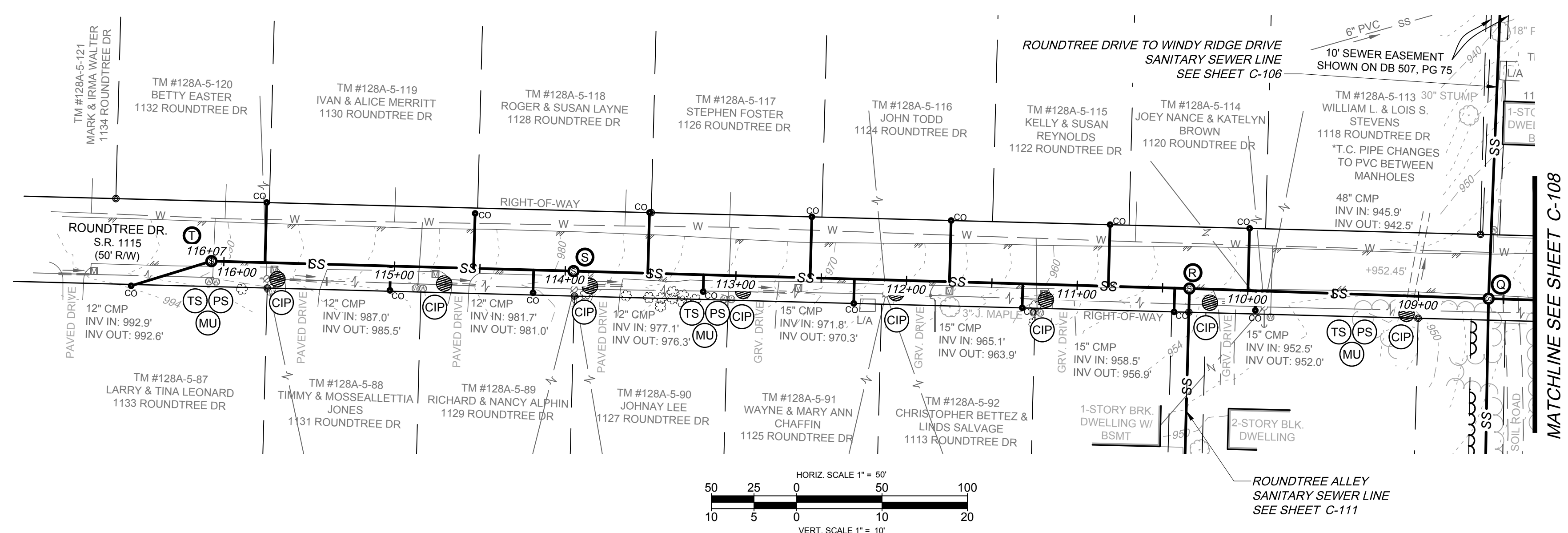


**APPROVED FOR CONSTRUCTION**

BRWA JOB NO.  
2021-004



THIS SHEET IS INTENDED TO BE REPRODUCED AT 200% REPRODUCTION OF THIS SHEET AT A DIFFERENT SIZE THAN INTENDED SHALL VOID THE SCALE SHOWN ON THE SHEET.



ROUNDTREE DRIVE SANITARY SEWER

- NOTES:**
- EXISTING SANITARY SEWER TO BE REPLACED IN THE SAME TRENCH. NEW TRENCH BOTTOM MAY BE LOWER IN SOME LOCATIONS TO PROVIDE SUFFICIENT COVER OVER PIPE.
  - CONTRACTOR TO PROVIDE BYPASS PUMPING.
  - ALL MANHOLES WILL BE REPLACED.
  - ALL EXISTING ACTIVE SERVICES TO HAVE CLEANOUTS. IN SOME CASES AN EXISTING CLEANOUT WAS NOT FOUND. IN THOSE CASES CONTRACTOR TO INSTALL CLEANOUT ON EXISTING SERVICE WHEN LOCATED DURING CONSTRUCTION.

**SANITARY STRUCTURE SCHEDULE**

	NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 12.96'
	STA: 108+59
	TOP: 953.10
	N: 3645061.70
	E: 11178624.84
Q	INV IN=947.54 FROM P DEFLECTION: 1.25' L
	INV IN=940.64 FROM R DEFLECTION: 88.63' R
	INV IN=940.64 FROM X DEFLECTION: 90.49' L
	INV IN (DROP)=930.34 DEFLECTION: 1.25' L
	INV OUT=940.14
	NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 13.40'
	STA: 110+34
	TOP: 954.74
	N: 3644886.41
	E: 11178627.20
R	INV IN=941.54 FROM S DEFLECTION: 0.31' L
	INV IN=941.64 FROM W DEFLECTION: 90.43' L
	INV OUT=941.34
	NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 10.06'
	STA: 113+95
	TOP: 979.39
	N: 3644525.57
	E: 11178634.02
S	INV IN=969.53 FROM T DEFLECTION: 0.04' L
	INV OUT=969.33
	NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 9.12'
	STA: 116+07
	TOP: 990.32
	N: 3644313.44
	E: 11178638.17
T	INV OUT=981.20

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BEDFORD, VIRGINIA

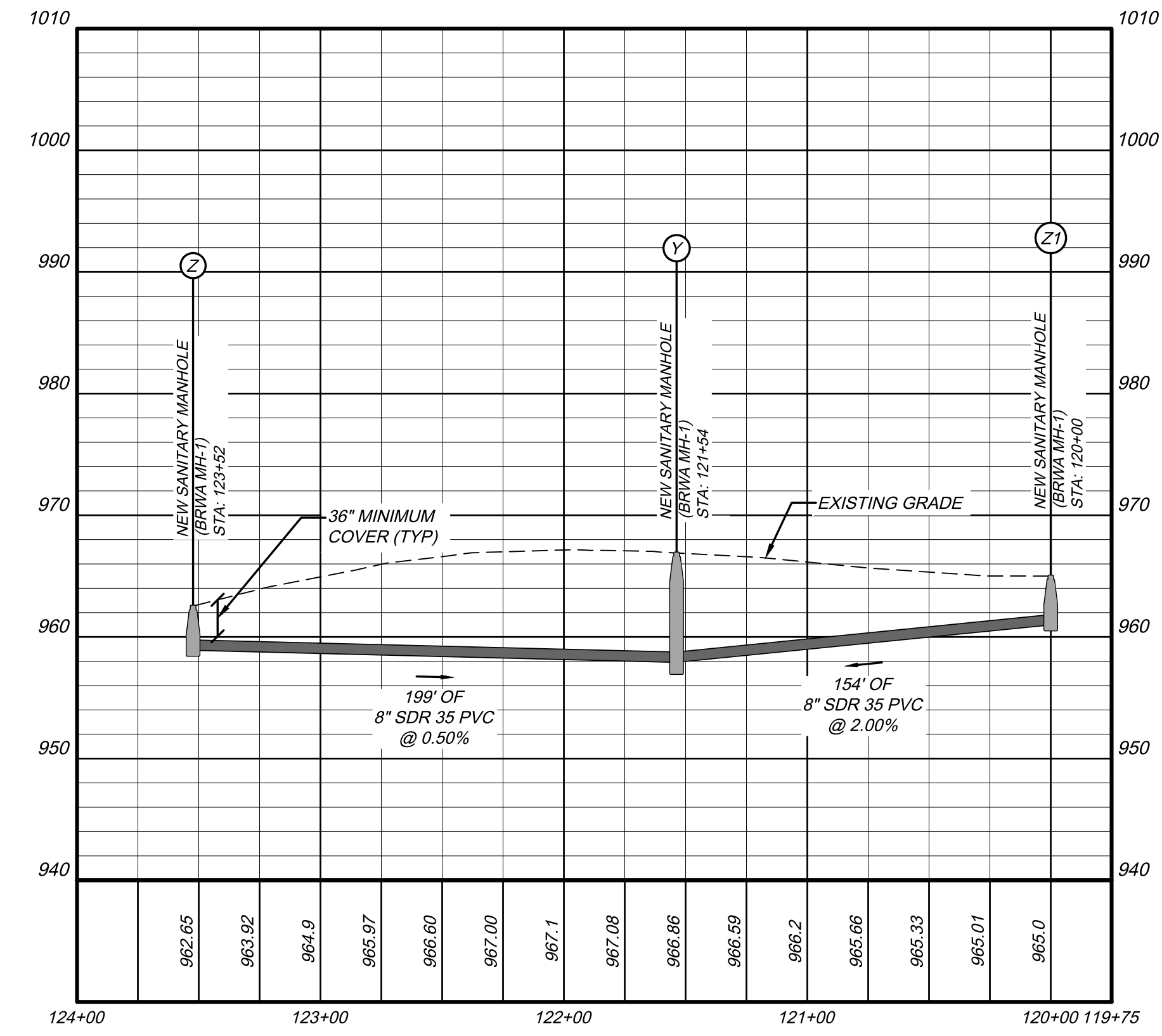
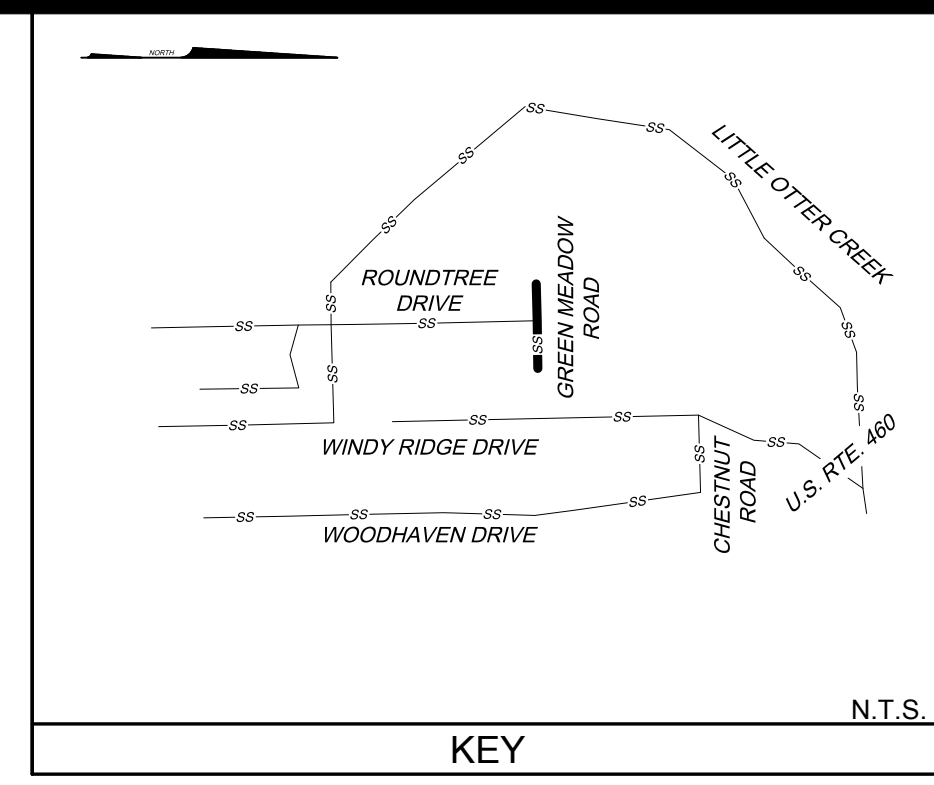
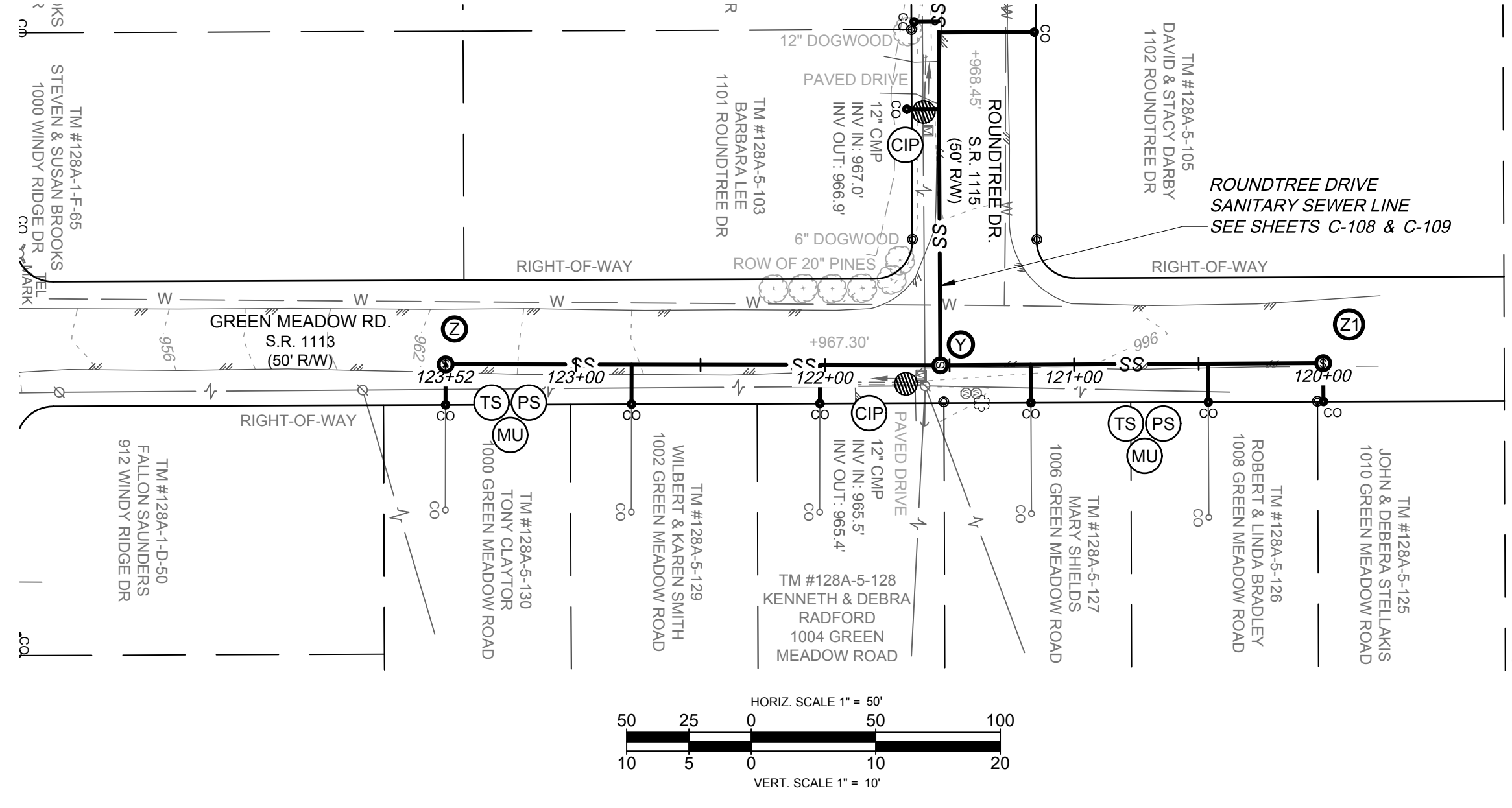
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BRWA JOB NO.  
2021-004

THIS SHEET IS INTENDED TO BE REPRODUCED AT 24X36. REPRODUCTION OF THIS SHEET AT A DIFFERENT SIZE THAN INTENDED SHALL VOID THE SCALE SHOWN ON THE SHEET.



GREEN MEADOW ROAD SANITARY SEWER

**NOTES:**

- EXISTING SANITARY SEWER TO BE REPLACED IN THE SAME TRENCH. NEW TRENCH BOTTOM MAY BE LOWER IN SOME LOCATIONS TO PROVIDE SUFFICIENT COVER OVER PIPE.
- CONTRACTOR TO PROVIDE BYPASS PUMPING.
- ALL MANHOLES WILL BE REPLACED.
- ALL EXISTING ACTIVE SERVICES TO HAVE CLEANOUTS. IN SOME CASES AN EXISTING CLEANOUT WAS NOT FOUND. IN THOSE CASES CONTRACTOR TO INSTALL CLEANOUT ON EXISTING SERVICE WHEN LOCATED DURING CONSTRUCTION.

**SANITARY STRUCTURE SCHEDULE**

NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 9.40'	
STA: 121+54	
TOP: 966.90	
N: 3645920.46	
E: 11178608.34	
INV IN=958.00 FROM Z1 DEFLECTION: 90.02° L	
INV IN=958.00 FROM Z DEFLECTION: 90.40° R	
INV OUT=957.50	
NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 3.54'	
STA: 123+52	
TOP: 962.53	
N: 3645923.52	
E: 11178806.93	
INV OUT=958.99	
NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 3.93'	
STA: 120+00	
TOP: 965.00	
N: 3645916.96	
E: 11178454.67	
INV OUT=961.07	

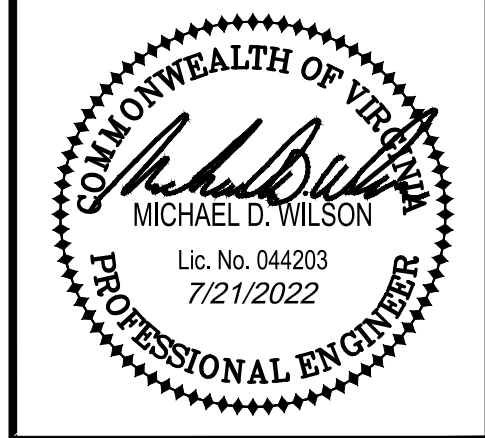
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GREEN MEADOW ROAD SANITARY SEWER  
FOR  
BRWA TOWN & COUNTRY SEWER REPLACEMENT  
BEDFORD, VIRGINIA

PROJECT NO.	20210409
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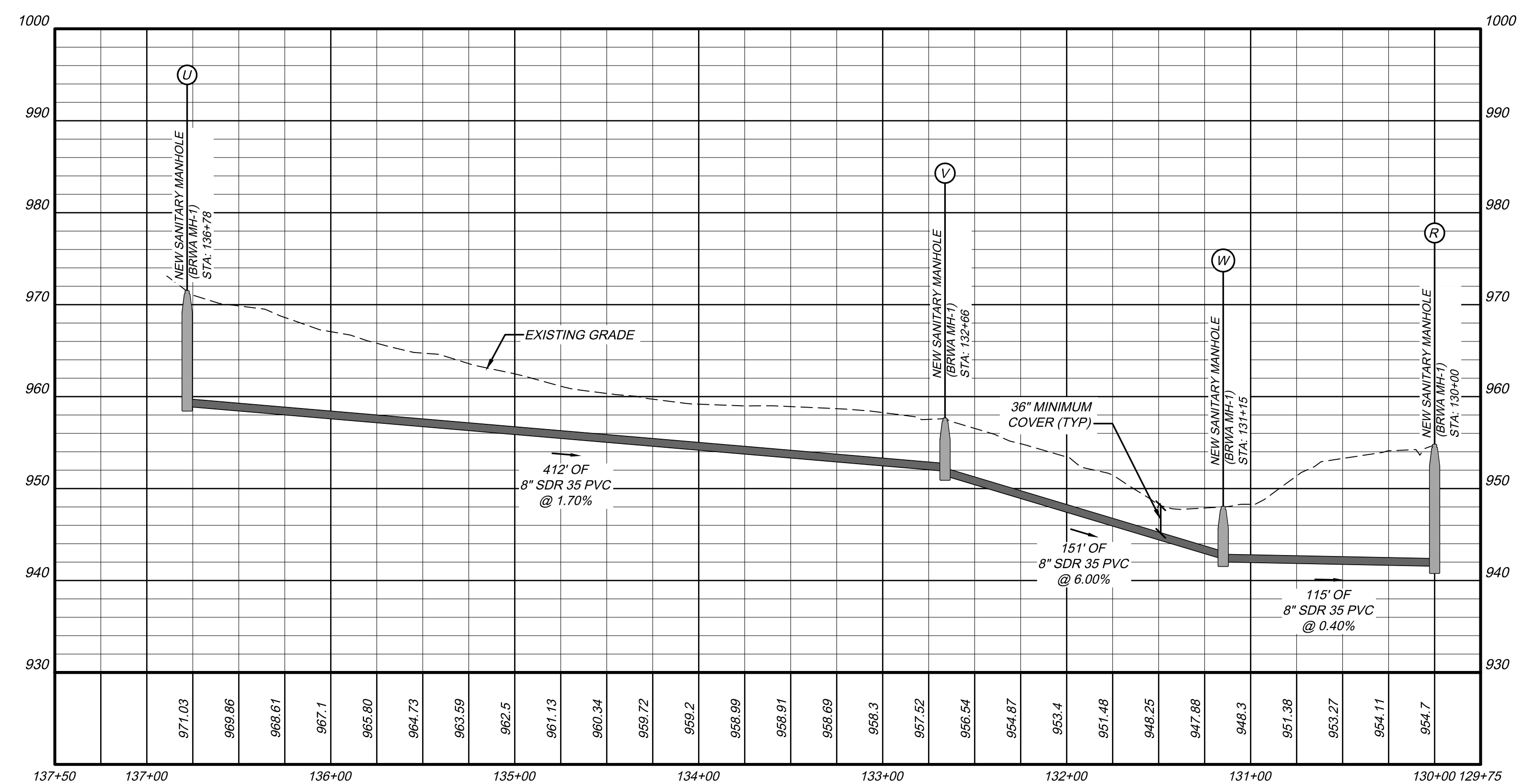
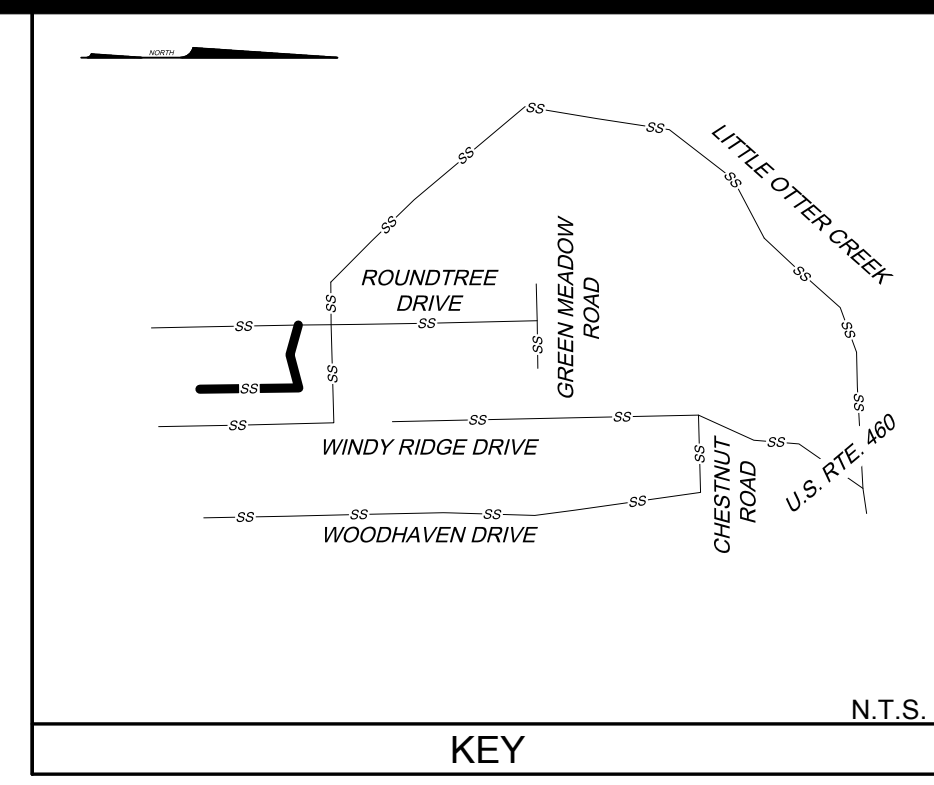
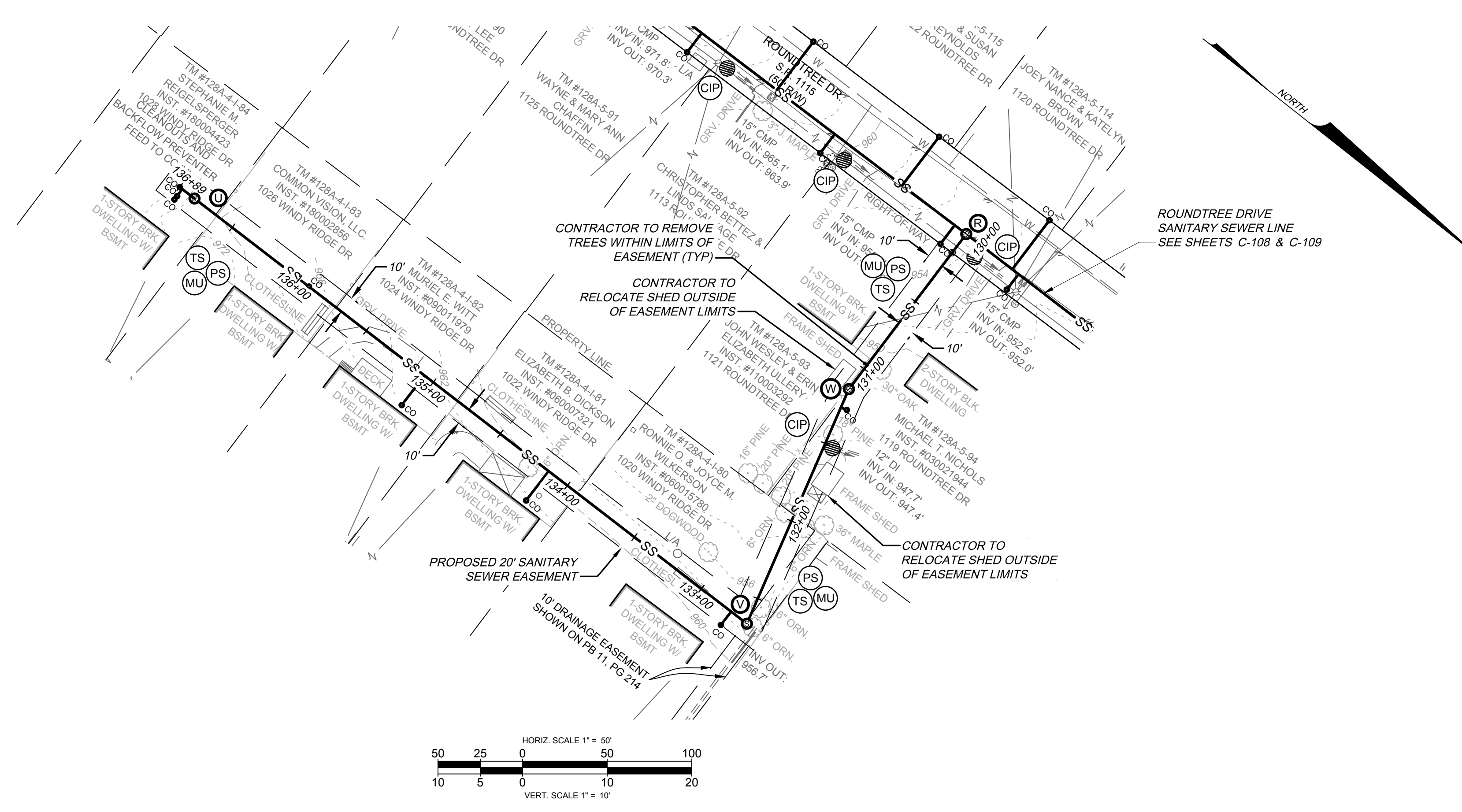
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BRWA JOB NO.  
2021-004

**HURT & PROFFITT**

SHEET NO. C-110      REV.

THIS SHEET IS INTENDED TO BE REPRODUCED AT 20X SIZE. REPRODUCTION OF THIS SHEET AT A DIFFERENT SIZE THAN INTENDED SHALL VOID THE SCALE SHOWN ON THE SHEET.



- NOTES:**
- EXISTING SANITARY SEWER TO BE REPLACED IN THE SAME TRENCH. NEW TRENCH BOTTOM MAY BE LOWER IN SOME LOCATIONS TO PROVIDE SUFFICIENT COVER OVER PIPE.
  - CONTRACTOR TO PROVIDE BYPASS PUMPING.
  - ALL MANHOLES WILL BE REPLACED.
  - ALL EXISTING ACTIVE SERVICES TO HAVE CLEANOUTS. IN SOME CASES AN EXISTING CLEANOUT WAS NOT FOUND. IN THOSE CASES CONTRACTOR TO INSTALL CLEANOUT ON EXISTING SERVICE WHEN LOCATED DURING CONSTRUCTION.

**SANITARY STRUCTURE SCHEDULE**

R	NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 13.40' STA: 130+00 TOP: 954.74 N: 3644886.41 E: 11178627.20 INV IN=941.54 FROM S DEFLECTION: 0.31° L INV IN=941.64 FROM W DEFLECTION: 90.43° L INV OUT=941.34
U	NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 12.46' STA: 136+78 TOP: 971.46 N: 3644515.54 E: 11178893.48 INV OUT=959.00
V	NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 6.12' STA: 132+66 TOP: 957.60 N: 3644927.45 E: 11178888.28 INV IN=951.98 FROM U DEFLECTION: 104.08° R INV OUT=951.48
W	NEW SANITARY MANHOLE (BRWA MH-1) 48" DIA.; H = 5.89' STA: 131+15 TOP: 947.99 N: 3644888.81 E: 11178742.09 INV IN=942.40 FROM V DEFLECTION: 13.61° L INV OUT=942.10

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ROUND TREE ALLEY SANITARY SEWER  
FOR  
**BRWA TOWN & COUNTRY SEWER REPLACEMENT**  
BEDFORD, VIRGINIA

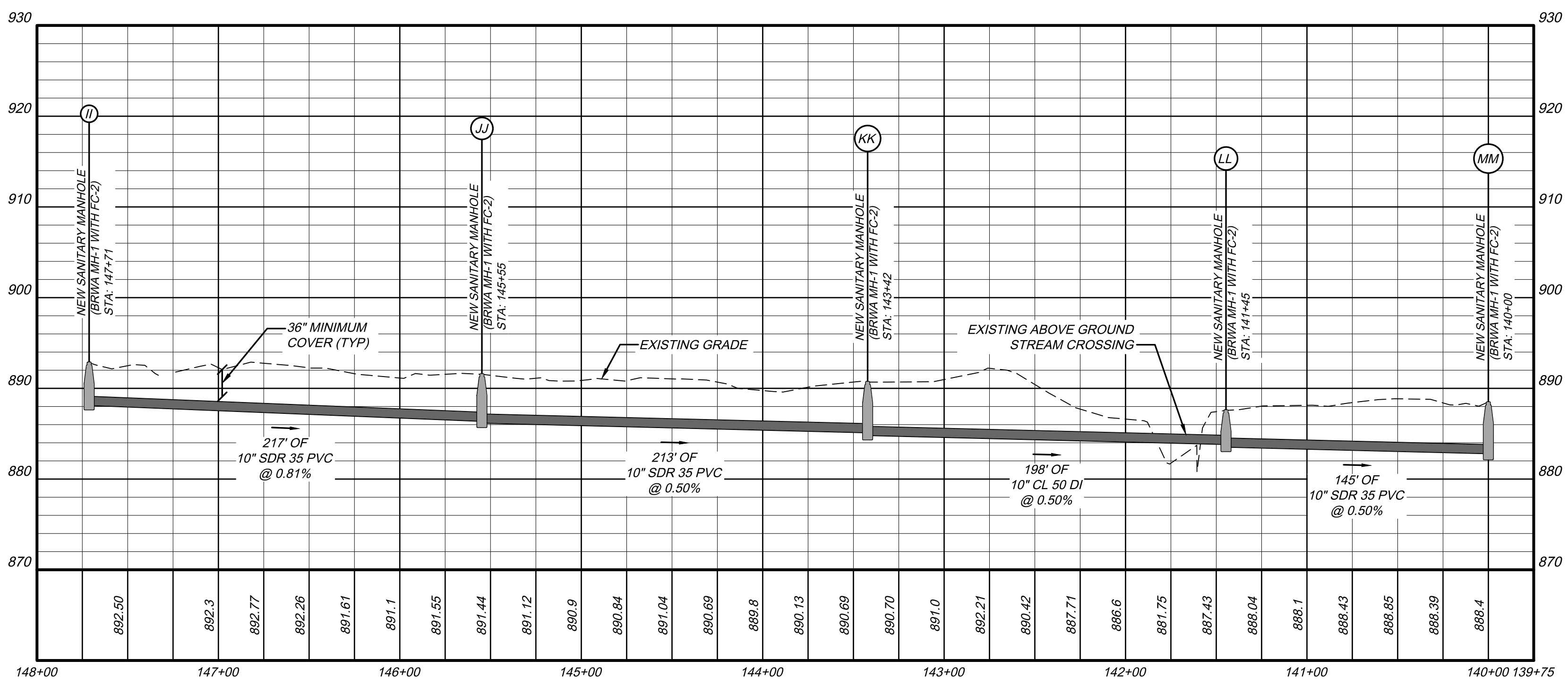
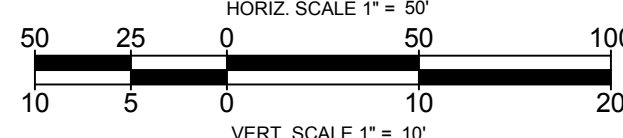
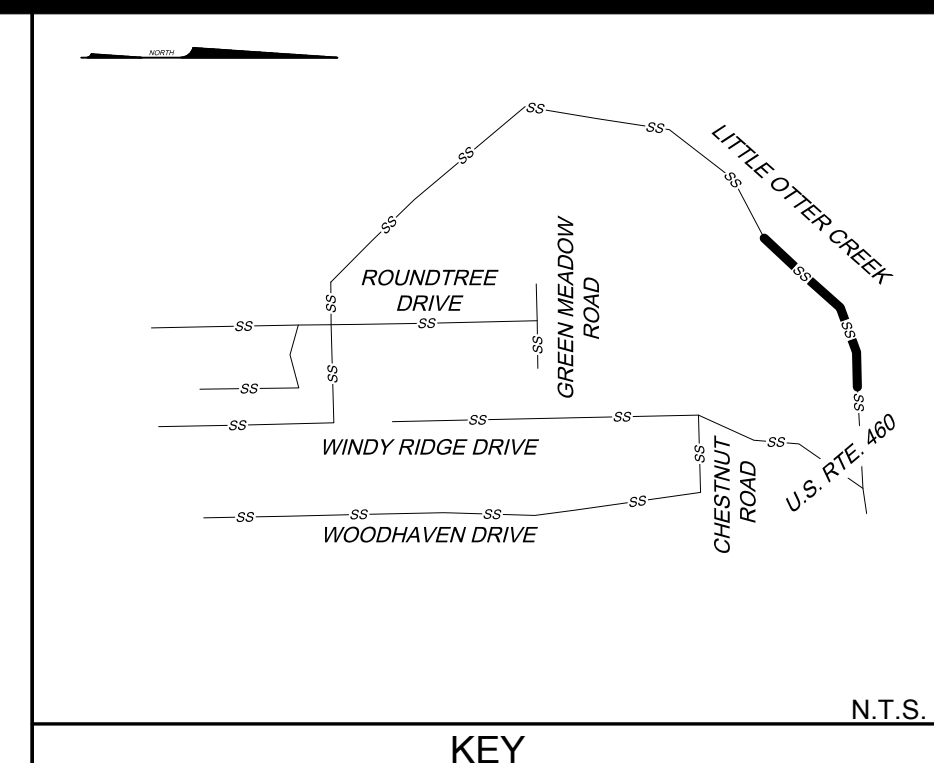
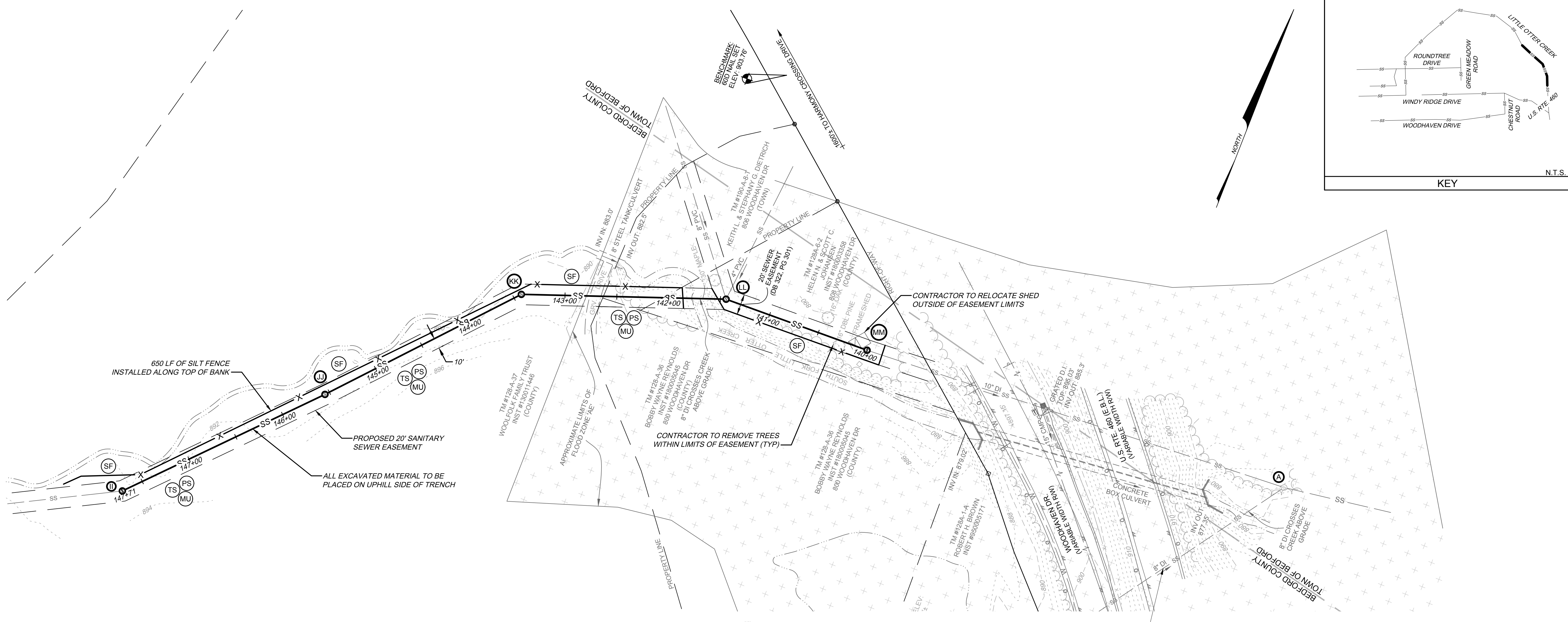
PROJECT NO.	20210409
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BRWA JOB NO.  
2021-004

THIS SHEET IS INTENDED TO BE REPRODUCED AT 20X SIZE. REPRODUCTION OF THIS SHEET AT A DIFFERENT SIZE THAN INTENDED SHALL VOID THE SCALE SHOWN ON THE SHEET.



LITTLE OTTER CREEK SANITARY SEWER

- NOTES:**
- EXISTING SANITARY SEWER TO BE REPLACED IN THE SAME TRENCH. NEW TRENCH BOTTOM MAY BE LOWER IN SOME LOCATIONS TO PROVIDE SUFFICIENT COVER OVER PIPE.
  - CONTRACTOR TO PROVIDE BYPASS PUMPING.
  - ALL MANHOLES WILL BE REPLACED.
  - ALL EXISTING ACTIVE SERVICES TO HAVE CLEANOUTS. IN SOME CASES AN EXISTING CLEANOUT WAS NOT FOUND. IN THOSE CASES CONTRACTOR TO INSTALL CLEANOUT ON EXISTING SERVICE WHEN LOCATED DURING CONSTRUCTION.

**SANITARY STRUCTURE SCHEDULE**

II	NEW SANITARY MANHOLE (BRWA MH-1 WITH FC-2) 48" DIA.; H = 4.63' STA: 147+71 TOP: 892.83 N: 3646866.74 E: 11178264.39 INV IN=888.50 FROM HH DEFLECTION: 19.12° R INV OUT=888.20
JJ	NEW SANITARY MANHOLE (BRWA MH-1 WITH FC-2) 48" DIA.; H = 5.29' STA: 145+55 TOP: 891.54 N: 3647024.73 E: 11178412.42 INV IN=886.45 FROM II DEFLECTION: 1.51° R INV OUT=886.25
KK	NEW SANITARY MANHOLE (BRWA MH-1 WITH FC-2) 48" DIA.; H = 5.80' STA: 143+42 TOP: 890.69 N: 3647183.65 E: 11178553.66 INV IN=885.19 FROM JJ DEFLECTION: 28.36° L INV OUT=884.89
LL	NEW SANITARY MANHOLE (BRWA MH-1 WITH FC-2) 48" DIA.; H = 3.96' STA: 141+45 TOP: 887.56 N: 3647251.26 E: 11178739.25 INV IN=883.90 FROM KK DEFLECTION: 18.55° L INV IN=883.90 FROM N/A DEFLECTION: 52.75° R INV IN=884.40 FROM N/A DEFLECTION: 96.84° R INV OUT=883.60
MM	NEW SANITARY MANHOLE (BRWA MH-1 WITH FC-2) 48" DIA.; H = 5.74' STA: 140+00 TOP: 888.44 N: 3647254.96 E: 11178883.82 INV IN=882.88 FROM LL DEFLECTION: 1.67° R INV OUT=882.70

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LITTLE OTTER CREEK SANITARY SEWER  
FOR  
BRWA TOWN & COUNTRY SEWER REPLACEMENT  
BEDFORD, VIRGINIA

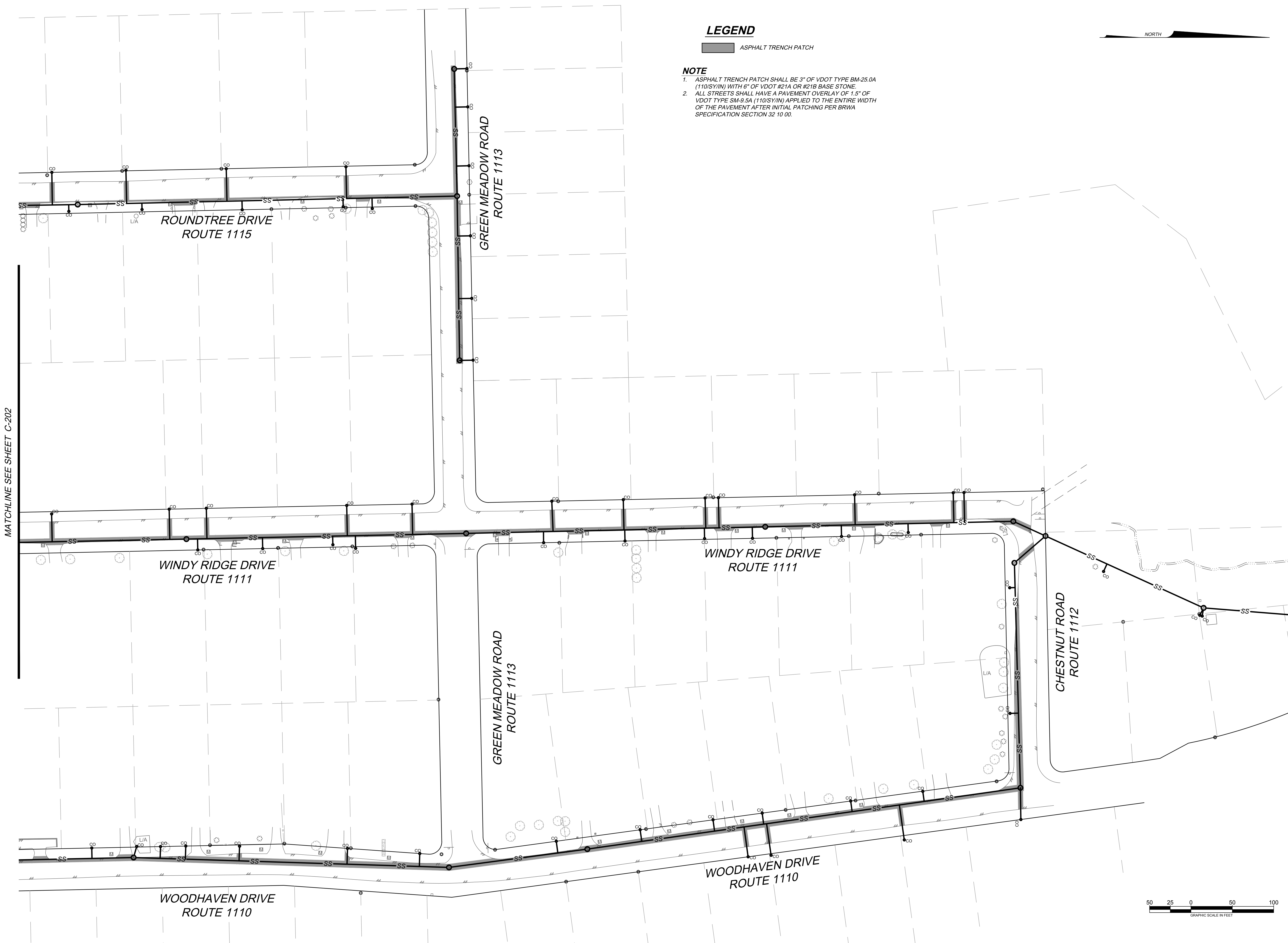
PROJECT NO.	20210409
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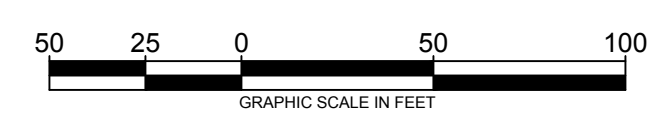


**LEGEND**

ASPHALT TRENCH PATCH

**NOTE**

- 1. ASPHALT TRENCH PATCH SHALL BE 3" OF VDOT TYPE BM-25.0A (110/SY/IN) WITH 6" OF VDOT #21A OR #21B BASE STONE.
- 2. ALL STREETS SHALL HAVE A PAVEMENT OVERLAY OF 1.5" OF VDOT TYPE SM-9.5A (110/SY/IN) APPLIED TO THE ENTIRE WIDTH OF THE PAVEMENT AFTER INITIAL PATCHING PER BRWA SPECIFICATION SECTION 32 10 00.



MATCHLINE SEE SHEET C-202

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PAVEMENT RESTORATION PLAN  
FOR  
**BRWA TOWN & COUNTRY SEWER REPLACEMENT**  
BEDFORD, VIRGINIA

PROJECT NO.	20210409
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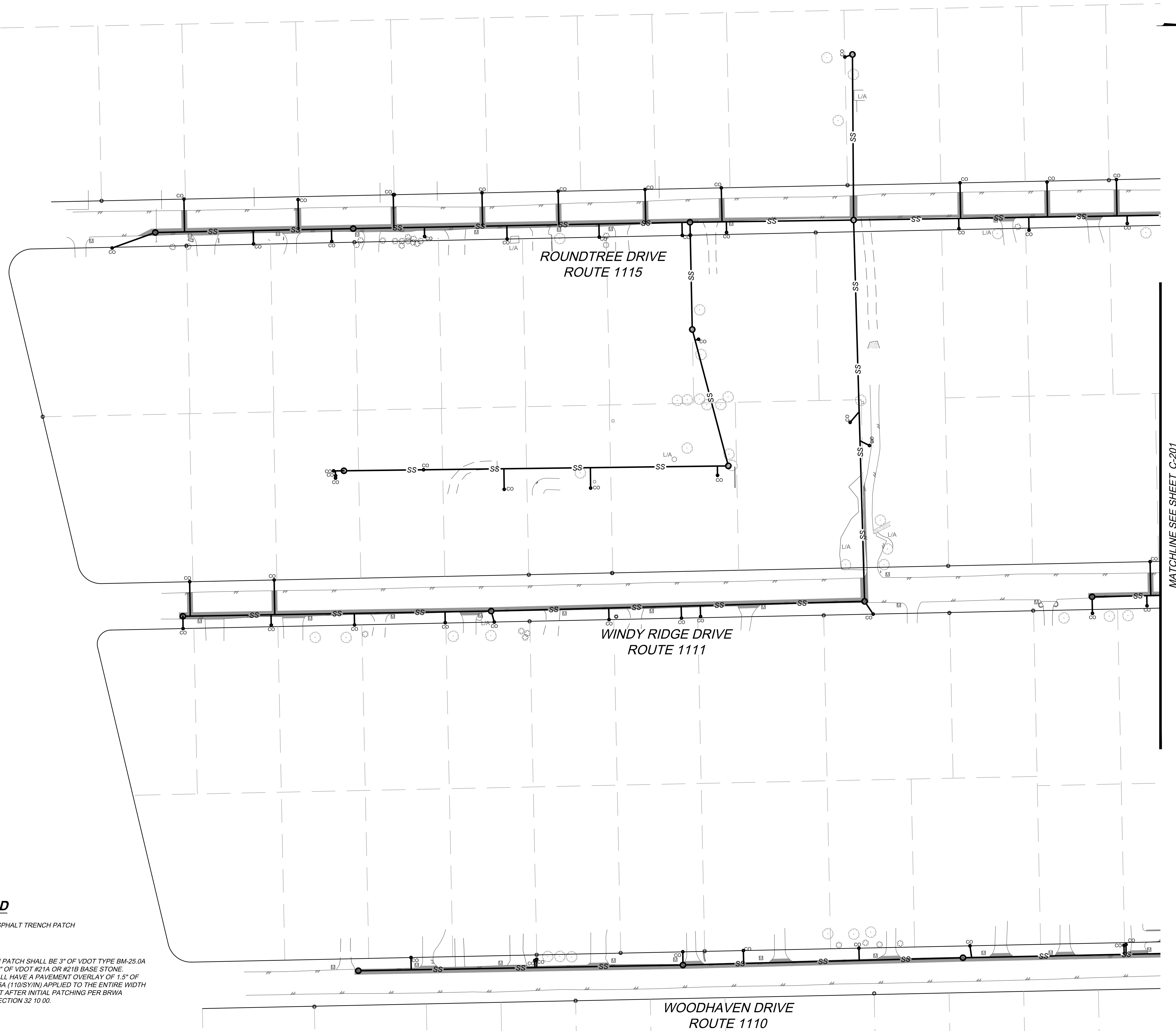
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BRWA JOB NO. 2021-004

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SHEET NO. C-201      REV.

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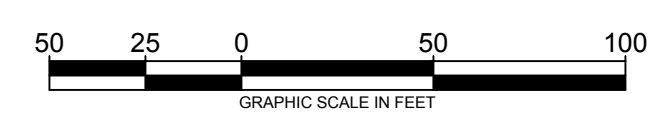


MATCHLINE SEE SHEET C-201

**LEGEND**

ASPHALT TRENCH PATCH

- NOTE**
1. ASPHALT TRENCH PATCH SHALL BE 3" OF VDOT TYPE BM-25.0A (110/SY/IN) WITH 6" OF VDOT #21A OR #21B BASE STONE.
  2. ALL STREETS SHALL HAVE A PAVEMENT OVERLAY OF 1.5" OF VDOT TYPE SM-9.5A (110/SY/IN) APPLIED TO THE ENTIRE WIDTH OF THE PAVEMENT AFTER INITIAL PATCHING PER BRWA SPECIFICATION SECTION 32 10 00.



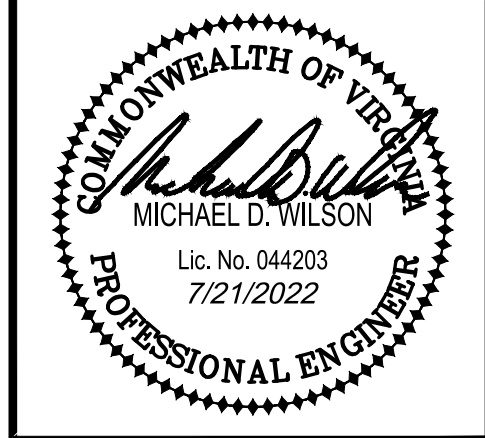
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PAVEMENT RESTORATION PLAN  
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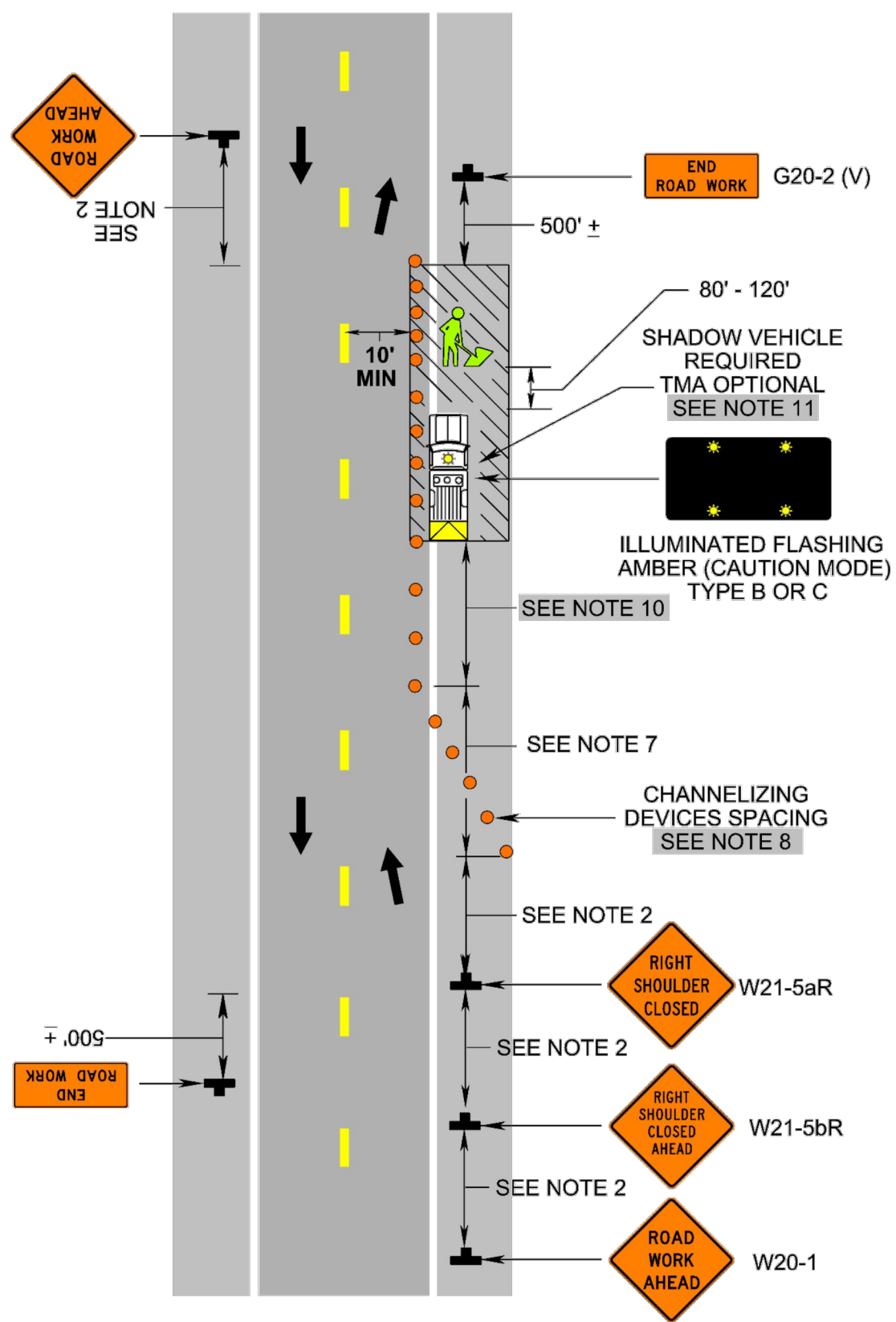
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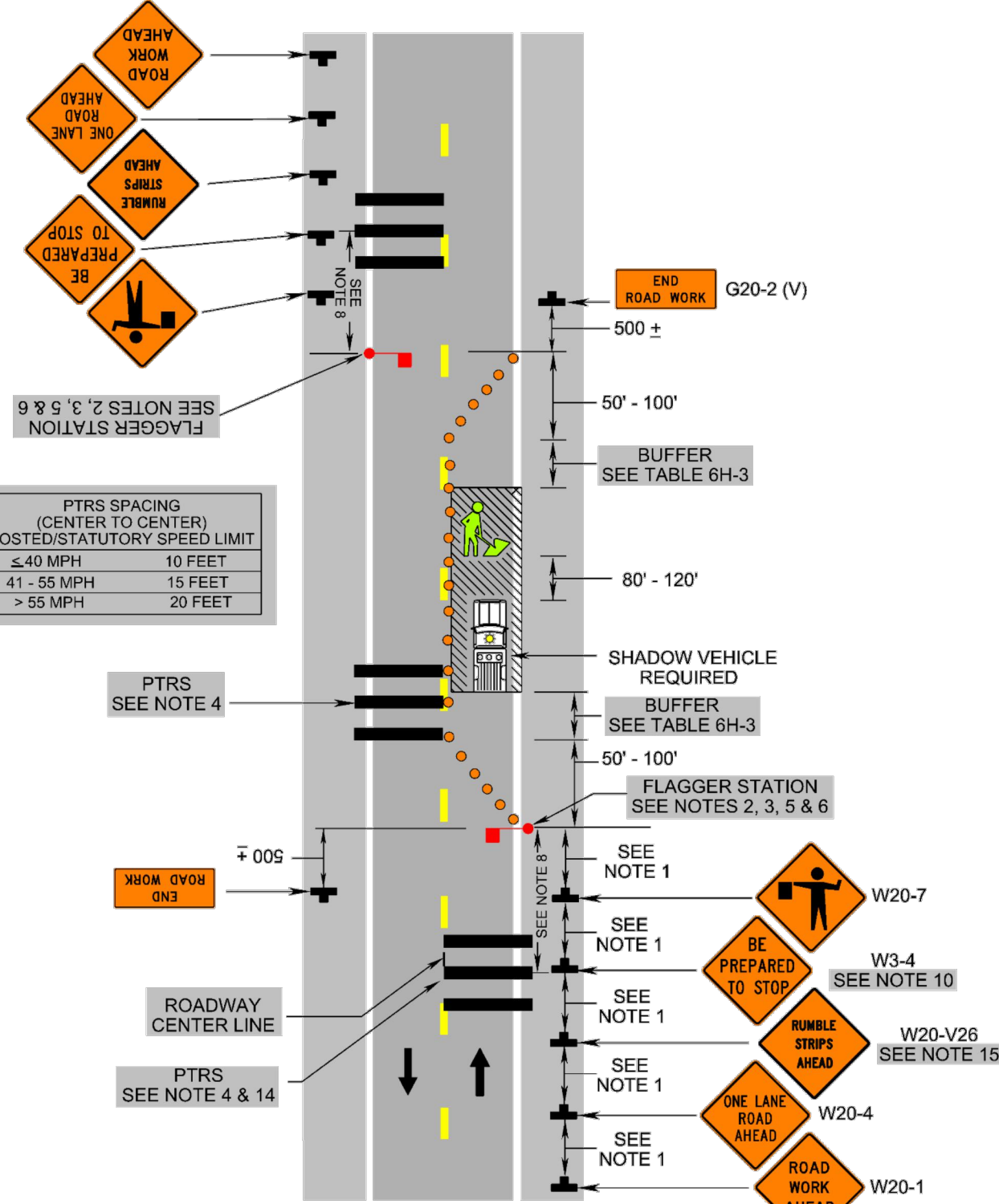
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Shoulder Operation with Minor Encroachment (Figure TTC-5.2)



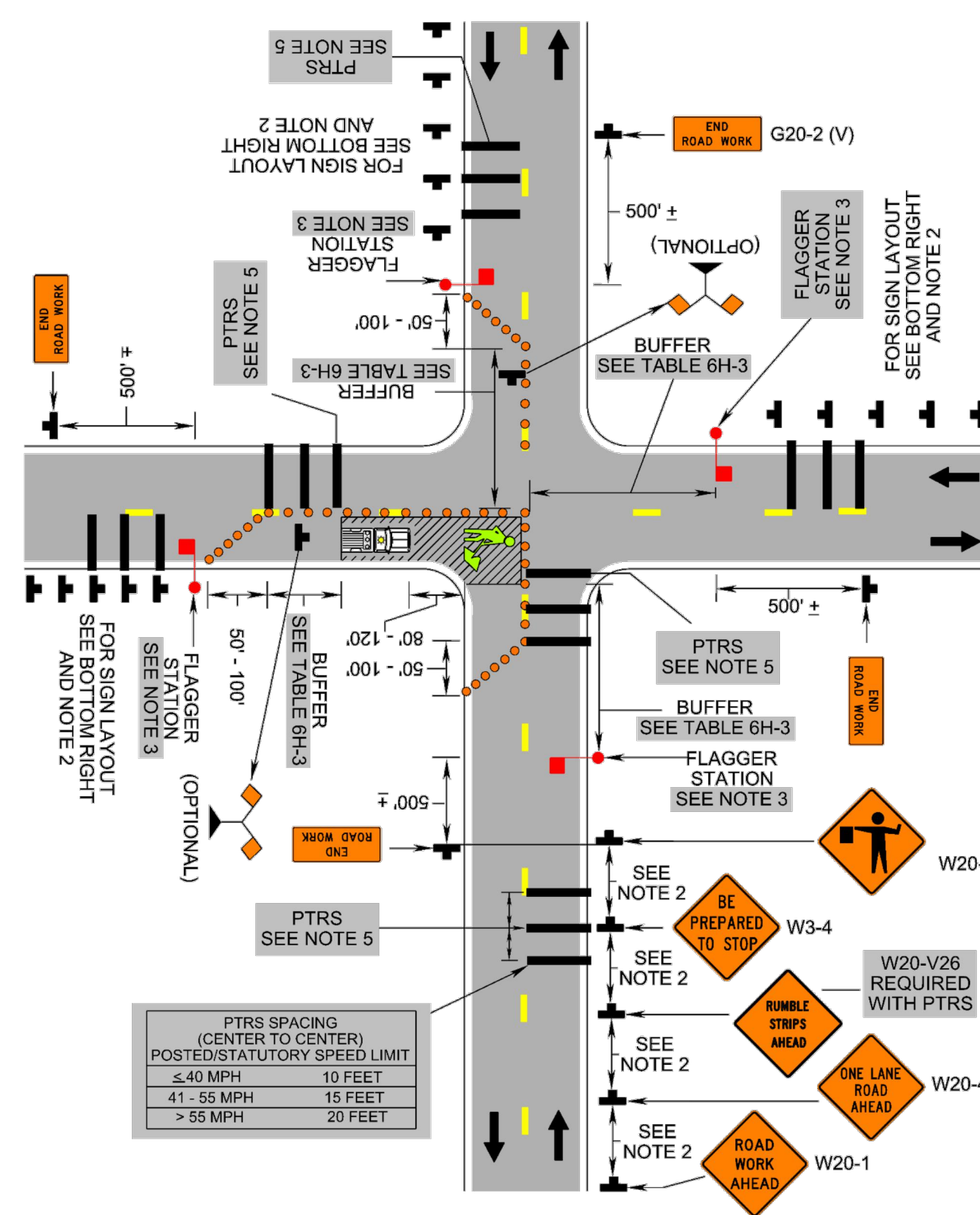
1: Revision 1 - 4/1/2015
2: Revision 2 - 9/1/2019

Lane Closure on a Two-Lane Roadway Using Flaggers (Figure TTC-23.2)



1: Revision 1 - 4/1/2015
2: Revision 2 - 9/1/2019

Lane Closure Operation at an Intersection (Figure TTC-28.2)



2: Revision 2 - 9/1/2019

Typical Traffic Control Shoulder Operation with Minor Encroachment (Figure TTC-5.2)

NOTES

- Standard
1. For required sign assemblies for multi-lane roadways see Note 1, TTC-4.1
Guidance
2. Sign spacing should be 1300'-1500' for Limited Access highways...
3. When work takes up part of a lane on a high volume roadway...
Optin:
4. The ROAD WORK AHEAD (W20-1) sign on an intersecting roadway...
Standard:
5. A shadow vehicle with either an arrow board operating in the caution mode...
6. Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity amber rotating, flashing, or oscillating lights.
7. Taper length (L) and channelizing device spacing shall be at the following:
Table: Taper Length L
Table: Channelizing Device Spacing
8. Channelizing device spacing shall be at the following:
Table: Channelizing Device Spacing
9. On roadways with paved shoulders having a width of 8 feet or more...
10. The buffer space length The buffer space length shall be as shown in Table 6H-3 on Page 6H-5 for the posted speed limit.
11. A truck-mounted attenuator (TMA) shall be used on Limited Access highways and multi-lane roadways with posted speed limit equal to or greater than 45 mph.
12. When a side road intersects the highway within the temporary traffic control zone, additional traffic control devices shall be placed as needed.

1: Revision 1 - 4/1/2015
2: Revision 2 - 9/1/2019

Typical Traffic Control Lane Closure on a Two-Lane Roadway Using Flaggers (Figure TTC-23.2)

NOTES

- Guidance:
1. Sign spacing distance should be 350'-500' where the posted speed limit is 45 mph or less...
2. Care should be exercised when establishing the limits of the work zone to insure maximum possible sight distance...
3. To maintain efficient traffic flow in a flagging operation on a two-lane roadway...
Standard:
4. Portable Temporary Rumble Strips (PTRS) shall be used as noted in Section 6F.99.
5. Flagging stations shall be located far enough in advance of the work space to permit approaching traffic to reduce speed...
6. All flaggers shall be state certified and have their certification card in their possession...
7. Cone spacing shall be based on the posted speed and the values in Table 6H-4 on Page 6H-6.
8. A shadow vehicle with at least one high intensity amber rotating, flashing, or oscillating light shall be parked 80'-120' in advance of the first work crew.
Optin:
8. A SLOW (W21-V10) sign may be required in this area to give advance warning of the operation ahead...
Guidance:
9. If the queue of traffic reaches the BE PREPARED TO STOP (W3-4) sign then the signs, and if used the PTRS' should be readjusted at greater distances.
10. When a highway-rail crossing exists within or upstream of the transition area...
Standard:
11. At night, flagger stations shall be illuminated, except in emergencies...
Optin:
12. Cones may be eliminated when using a pilot vehicle operation...
13. For low-volume situations with short work zones...
Standard:
14. When used, three portable temporary rumble (PTRS) strips shall be installed across the entire travel lane adjacent to the BE PREPARED TO STOP (W3-4) sign.

1: Revision 1 - 4/1/2015
2: Revision 2 - 9/1/2019

Typical Traffic Control Lane Closure Operation at an Intersection (Figure TTC-28.2)

NOTES

- Guidance:
1. The control of traffic through the intersection in order of preference should be:
a. Obtain the services of law enforcement personnel.
b. Detour the effective routes to other roads and streets as approved and directed by the District Traffic Engineer.
c. Place a state certified flagger on each leg of the intersection...
2. Sign spacing distance should be 350'-500' where the posted speed limit is 45 mph or less...
3. To maintain efficient traffic flow in a flagging operation on a two-lane roadway...
Standard:
4. Channelizing device spacing shall be on 20' centers or less.
5. PTRS shall be used as noted in Section 6F.99.
Guidance:
6. If room permits, a shadow vehicle with at least one rotating amber light or high intensity amber flashing or oscillating light shall be parked 80'-120' in advance of the first work crew.
Standard:
7. For emergency situations (any non-planned operation) of 30 minutes or less duration...
Guidance:
8. If the work space extends across a crosswalk, the crosswalk should be closed...
Support:
9. Turns can be prohibited as required by vehicular traffic conditions.

1: Revision 1 - 4/1/2015
2: Revision 2 - 9/1/2019

MAINTENANCE OF TRAFFIC NOTES

- 1. IT IS NOT THE INTENT OF THIS PLAN TO ENUMERATE EVERY DETAIL WHICH MUST BE CONSIDERED IN THE CONSTRUCTION OF EACH WORK ZONE...
2. CONTRACTOR SHALL CONTACT BEDFORD COUNTY AND VDOT REPRESENTATIVES IN WRITING WITH A WORK SCHEDULE TWO WEEKS BEFORE STARTING WORK...
3. THE CONTRACTOR SHALL COORDINATE THE SEQUENCE OF CONSTRUCTION WITH BEDFORD COUNTY...
4. SIGN SPACING MAY BE ADJUSTED TO FIT FIELD CONDITIONS WITH BEDFORD COUNTY AND VDOT APPROVAL...
5. WHEN WORK IS NOT BEING PERFORMED, THE CLEAR ZONE OF THE ROADWAY SHALL BE FREE OF STORED MATERIALS AND PARKED EQUIPMENT...
6. THE POSTED SPEED LIMIT IS 25 MPH IN THE PROJECT AREA...
7. SAFE ACCESS TO ALL EXISTING PUBLIC ROADWAYS SHALL BE MAINTAINED AT ALL TIMES...
8. WORK SHALL NOT OCCUR AT NIGHT UNLESS DURING AN EMERGENCY CONDITION...
9. ALL FLAGGERS SHALL BE STATE-CERTIFIED AND HAVE THEIR CERTIFICATION CARD IN THEIR POSSESSION...
10. CHANNELIZING DEVICES SUCH AS CONES OR BARRELS SHALL BE UTILIZED WHERE REQUIRED AND SHALL CONFORM TO THE WAPM...
11. CONTRACTOR SHALL MAINTAIN ALL EXISTING ROADWAY SIGNAGE DURING ALL PHASES OF THE PROJECT...
12. LANE CLOSURES SHALL BE LIMITED TO 1/4 MILE OR AS DIRECTED BY BEDFORD COUNTY AND VDOT...
13. MOTORISTS SHALL BE WARNED IN ADVANCE OF ANY INTERSECTION CLOSURES...
14. A MINIMUM 10' CLEAR ROADWAY SHALL BE MAINTAINED AT ALL TIMES DURING WORK HOURS WITH FULL PAVEMENT LAINE WIDTHS TO BE RESTORED...
15. ALL TRAFFIC CONTROL DEVICES USED WILL CONFORM TO THE 2011 VIRGINIA WORK AREA PROTECTION MANUAL...
16. ALL WORK ZONES ARE TO BE REMOVED AND NORMAL TRAFFIC PATTERNS RESTORED AT THE COMPLETION OF EACH DAY'S SPECIFIED WORK HOURS...
17. MAINTENANCE OF TRAFFIC (MOT) SHALL BE IN ACCORDANCE WITH THE 2011 VIRGINIA WORK AREA PROTECTION MANUAL...
18. CONTRACTOR IS RESPONSIBLE FOR PROVIDING A STAGING AREA OUTSIDE THE CLEAR ZONE OR DYNAMIC DEFLECTION AREAS OF PHYSICAL BARRIERS AT ALL LOCATIONS FOR CONSTRUCTION EQUIPMENT AND OR MATERIAL STORAGE.

MAINTENANCE OF TRAFFIC NARRATIVE

THIS MAINTENANCE OF TRAFFIC PLAN IS INTENDED TO PROVIDE A BASIC OVERVIEW OF THE TYPES OF TRAFFIC CONTROL MEASURES NECESSARY FOR THE MAJOR WORK ZONES ON THE PROJECT. THIS PLAN IS NOT INTENDED TO SHOW EVERY FEATURE OF THE TRAFFIC CONTROL PLAN. THE CONTRACTOR SHALL ULTIMATELY BE RESPONSIBLE FOR ENSURING SAFE TRAVEL AROUND ALL WORK AREAS.
THE MAINTENANCE OF TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE VIRGINIA DEPARTMENT OF TRANSPORTATION'S WORK AREA PROTECTION MANUAL, FHWA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, AND AASHTO'S LATEST DESIGN MANUAL.

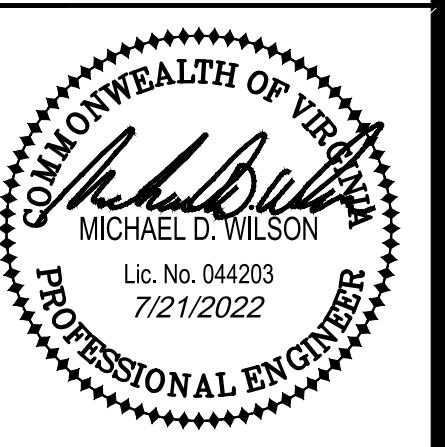
Table with 3 columns: SIGN SPACING DISTANCE, POSTED SPEED LIMIT (MPH), SIGN SPACING DISTANCE. Rows for 0-45, 46+, 0-35, 36+, 20', 40', 40', 80'.

Table with 2 columns: BUFFER SPACE/FLAGGER DISTANCE FROM WORK AREA, POSTED SPEED LIMIT (MPH), DISTANCE (FEET). Rows for 0-20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70.



TRAFFIC CONTROL DETAILS FOR BRWA TOWN & COUNTRY SEWER REPLACEMENT BEDFORD, VIRGINIA

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LAT. 37.329998°
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APPROVED FOR CONSTRUCTION

BRWA JOB NO. 2021-004

HURT & PROFFITT SHEET NO. C-501 REV.