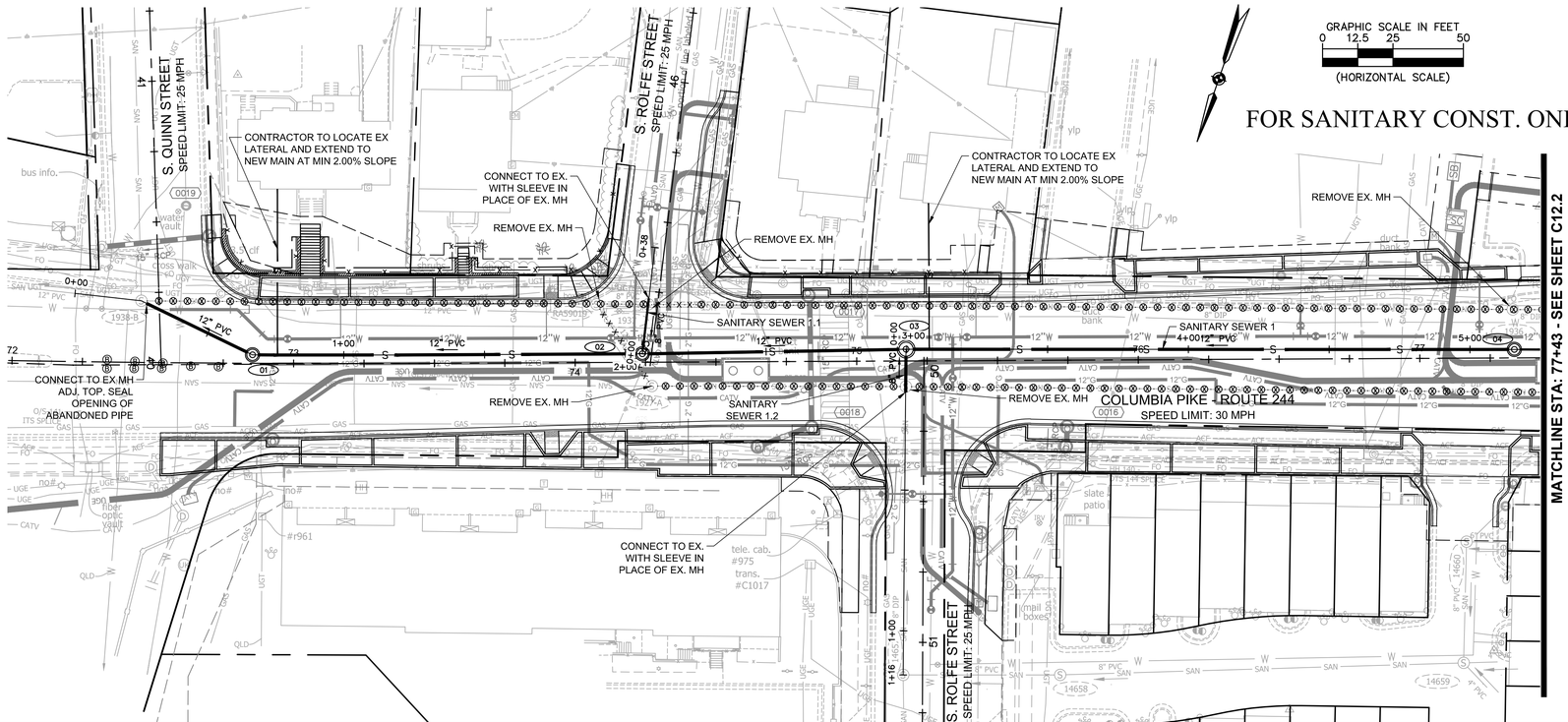


NOTES:

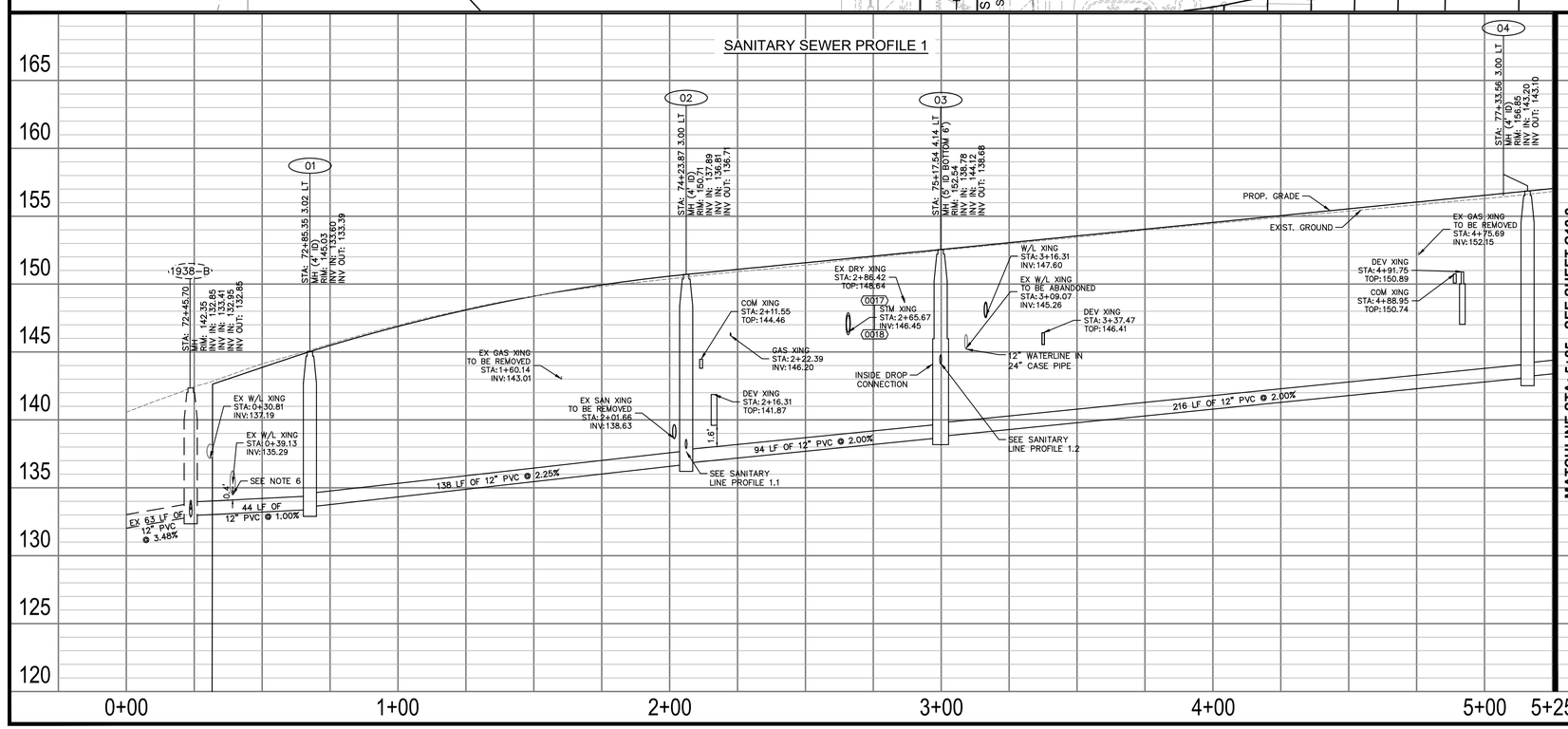
1. PROFILE STATIONING ALONG CENTERLINE OF PIPE
2. SEE SERIES 10 FOR FULL UTILITY NETWORK PLAN VIEWS.
3. CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE THROUGHOUT THE PROJECT LIMITS TO THE EXTENT POSSIBLE AT ALL TIMES. STORM/ SANITARY SEWER SHALL BE INSTALLED AND SEQUENCED TO MINIMIZE DOWN TIME REQUIRED FOR TIE-IN OR CUT-OVER OPERATIONS. SHOULD PUMP-AROUNDS BE REQUIRED TO COMPLETE STORM OR SANITARY SEWER INSTALLATIONS, THEY WILL BE INCIDENTAL TO THE COST OF PIPE AND STRUCTURE INSTALLATION.
4. CONTRACTOR TO FIELD VERIFY LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES ADJACENT TO OR CROSSING PROPOSED STORM SEWER PIPE AND STRUCTURES PRIOR TO INSTALLATION.
5. OFFSET OF EXIST. FIBER LINE AND LIGHTING LINE MAY BE REQUIRED FOR PROPOSED IMPROVEMENTS. SEE DETAIL SHEET C2.1.
6. WHERE MINIMUM VERTICAL CLEARANCES BETWEEN UTILITIES CANNOT BE MET, CONTRACTOR TO INSTALL CONCRETE PIERS AND/OR REINFORCED CONCRETE CRADLE PER ARLINGTON COUNTY STANDARD DRAWING M-7.0.
7. DESIGN ASSUMES THAT THE PROPOSED SANITARY SYSTEM IS GENERALLY INSTALLED PRIOR TO OTHER UTILITIES TO MITIGATE CONFLICTS.
8. SEE SHEET C2.5 FOR INSIDE DROP CONNECTION DETAIL.

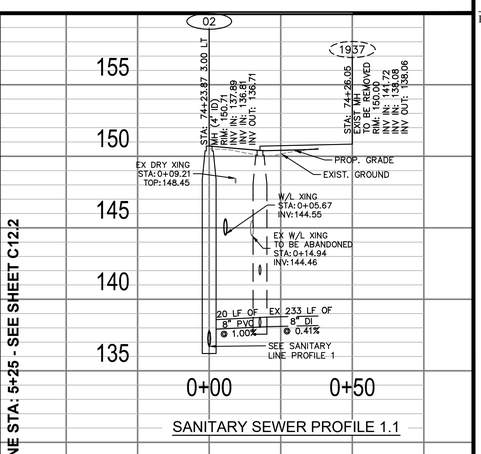
PROFILE VIEW LEGEND

- EXISTING PIPE/STRUCTURE TO REMAIN
- PROPOSED PIPE/STRUCTURE

PLAN VIEW LEGEND

- S — PROP. PVC SANITARY SEWER PIPE
- PROP. SANITARY SEWER MANHOLE
- (S) EXISTING SANITARY SEWER MANHOLE
- (4) PROP. SANITARY STRUCTURE NO.
- (10105) EXISTING SANITARY STRUCTURE NO.
- FILL & ABANDON UTILITY LINE
- REMOVE UTILITY LINE





SANITARY SEWER PROFILE 1.1

MATCHLINE STA: 5+25 - SEE SHEET C12.2

ARLINGTON VIRGINIA

DEPARTMENT OF ENVIRONMENTAL SERVICES

Facilities & Engineering Division
Engineering Bureau
2100 Clarendon Boulevard, Suite 813
Arlington, VA 22201
Phone: 703.228.3629
Fax: 703.228.3606

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11400 Commerce Park Drive, Suite 400
Reston Virginia 20191
Phone: 703-674-1300
Fax: 703-674-1350

Seal

COMMONWEALTH OF VIRGINIA
EDWARD J. DELIO
Lic. No. 0402054356
11/02/2022
PROFESSIONAL ENGINEER

Approvals	Date
Design Team Engineer Supervisor	
Construction Management Supervisor	
Water, Sewer, Streets Bureau Chief	
Transportation Director	
Project Manager	

Revisions	Date

Designed: MAT
Drawn: MAT
Checked: EJD
Miss Utility Transmittal #:

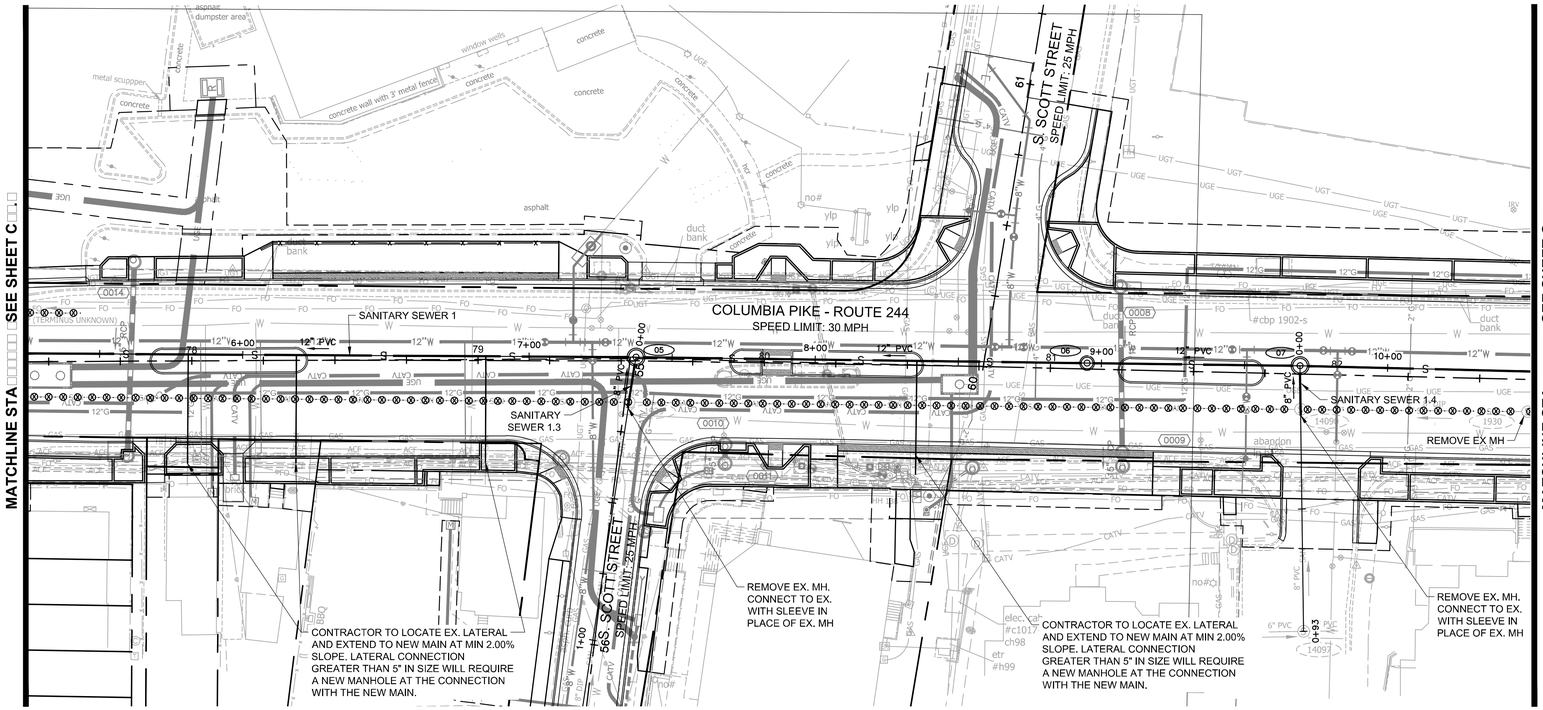
Filename: 010073-C-SSWR.dwg
Path: K:\NVA_RDWY\010073 - Columbia Pike Multimodal\Production\Task 2a-Final Design of Columbia Pike Segments\Segment C\7.5.1 - 75% Design\Sanitary\
Plotted: November 02, 2022
Plotted by: Ted.DeLio

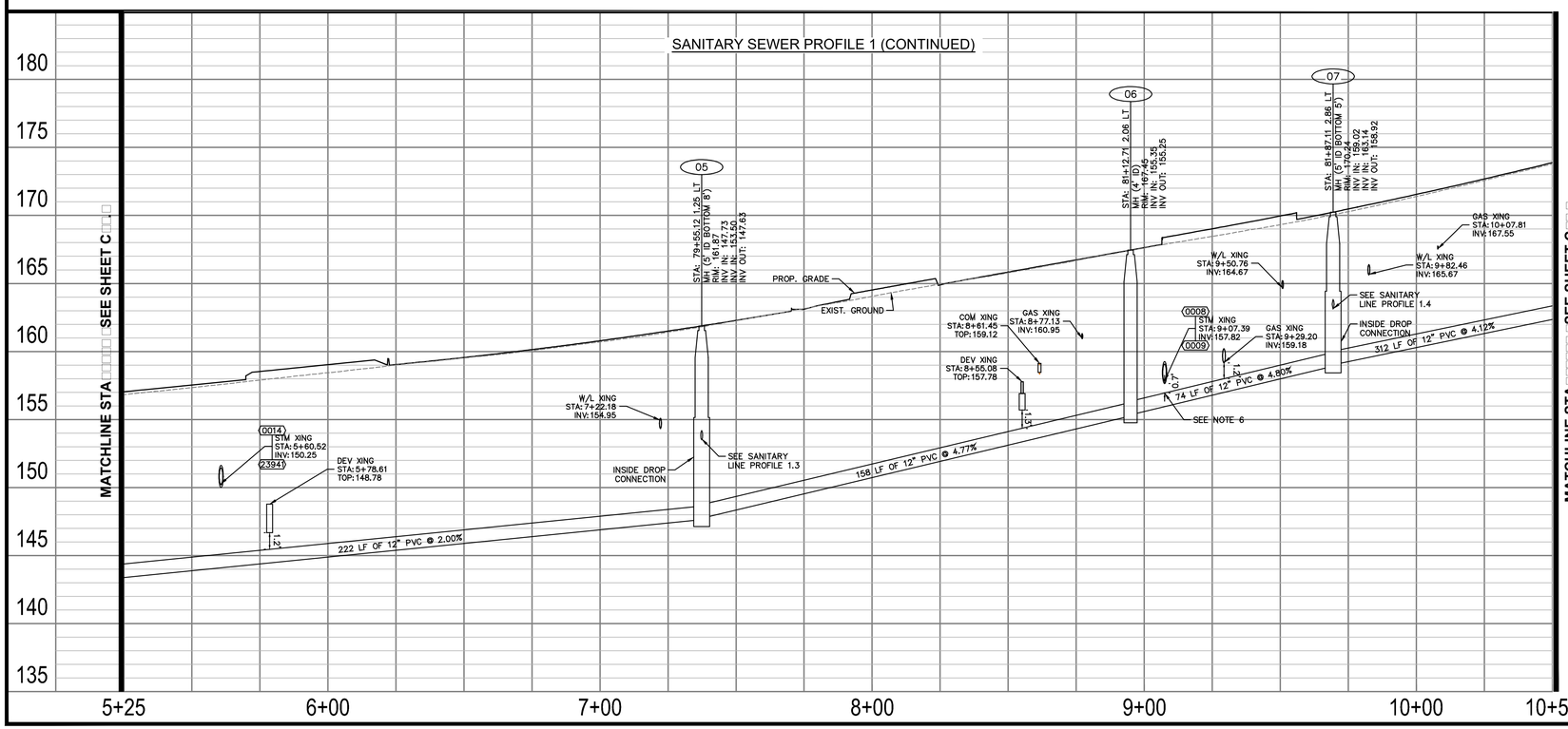
ARLINGTON COUNTY, VIRGINIA
DEPARTMENT OF ENVIRONMENTAL SERVICES

SANITARY SEWER PLAN AND PROFILES
COLUMBIA PIKE - ROUTE 244
COLUMBIA PIKE - MULTIMODAL STREET IMPROVEMENTS
SEGMENT C
STA. 72+22 TO STA. 77+43

SCALE: HOR. 1" = 25' VERT. 1" = 5'
SHEET: C12.1 of C12.4

ARLINGTON VIRGINIA
DEPARTMENT OF ENVIRONMENTAL SERVICES
LUIS ARAYA
BUREAU CHIEF, DES - DEVELOPMENT SERVICES
11/15/2022
APPROVAL DATE





GRAPHIC SCALE IN FEET
0 12.5 25 50
(HORIZONTAL SCALE)

FOR SANITARY CONST. ONLY

NOTES:

1. PROFILE STATIONING ALONG CENTERLINE OF PIPE
2. SEE SERIES 10 FOR FULL UTILITY NETWORK PLAN VIEWS.
3. CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE THROUGHOUT THE PROJECT LIMITS TO THE EXTENT POSSIBLE AT ALL TIMES. STORM/ SANITARY SEWER SHALL BE INSTALLED AND SEQUENCED TO MINIMIZE DOWN TIME REQUIRED FOR TIE-IN OR CUT-OVER OPERATIONS. SHOULD PUMP-AROUNDS BE REQUIRED TO COMPLETE STORM OR SANITARY SEWER INSTALLATIONS, THEY WILL BE INCIDENTAL TO THE COST OF PIPE AND STRUCTURE INSTALLATION.
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8. SEE SHEET C2.5 FOR INSIDE DROP CONNECTION DETAIL.

PROFILE VIEW LEGEND

- EXISTING PIPE/STRUCTURE TO REMAIN
- PROPOSED PIPE/STRUCTURE

PLAN VIEW LEGEND

- S — PROP. PVC SANITARY SEWER PIPE
- PROP. SANITARY SEWER MANHOLE
- (S) EXISTING SANITARY SEWER MANHOLE
- (4) PROP. SANITARY STRUCTURE NO.
- (1010S) EXISTING SANITARY STRUCTURE NO.
- FILL & ABANDON UTILITY LINE
- X X X X X X X X X X REMOVE UTILITY LINE

ARLINGTON VIRGINIA
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Engineering Bureau
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Arlington, VA 22201
Phone: 703.228.3629
Fax: 703.228.3606

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11400 Commerce Park Drive, Suite 400
Reston Virginia 20191
Phone: 703-674-1300
Fax: 703-674-1350

Seal
COMMONWEALTH OF VIRGINIA
EDWARD J. DELUCA
Lic. No. 0402054556
09/29/2022
PROFESSIONAL ENGINEER

Approvals	Date
Design Team Engineer Supervisor	
Construction Management Supervisor	
Water, Sewer, Streets Bureau Chief	
Transportation Director	
Project Manager	

Revisions	Date

Designed: MAT
Drawn: MAT
Checked: EJD
Miss Utility Transmittal #:

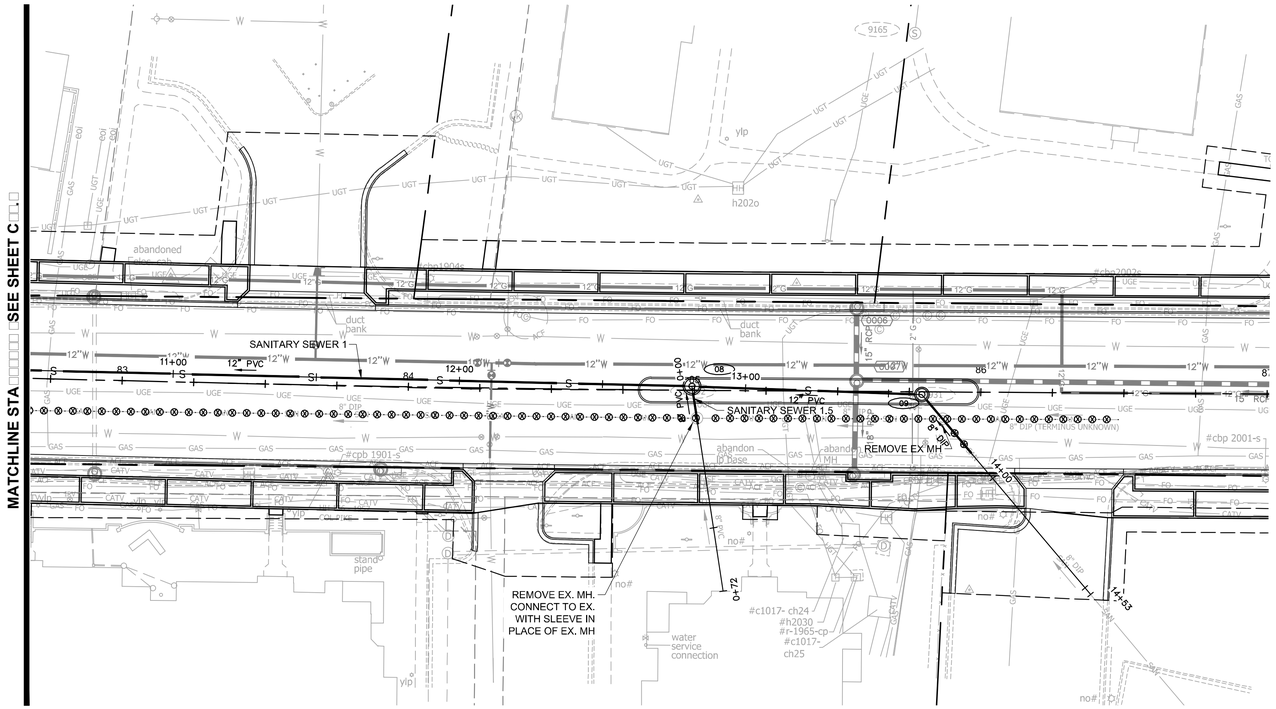
Filename: 010073-C-SSWR.dwg
Path: R:\NVA_RDWY\010073 - columbia pike multimodal\production\sub 3-final design of columbia pike segments segment c7.5.1 - 75%
design\dwgs\
Plotted: September 29, 2022
Plotted by: Miguel.Tyshing

ARLINGTON COUNTY, VIRGINIA
DEPARTMENT OF ENVIRONMENTAL SERVICES

SANITARY SEWER PLAN AND PROFILES
COLUMBIA PIKE - ROUTE 244
COLUMBIA PIKE - MULTIMODAL STREET IMPROVEMENTS
SEGMENT C
STA. 77□43 TO STA. □2□6□

SCALE: HOR. 1" □25□VERT. 1" □5□ | SHEET: C12.2 of C12.4

ARLINGTON VIRGINIA
DEPARTMENT OF ENVIRONMENTAL SERVICES
LUIS ARAYA
BUREAU CHIEF, DES - DEVELOPMENT SERVICES
11/15/2022
APPROVAL DATE



GRAPHIC SCALE IN FEET
0 12.5 25 50
(HORIZONTAL SCALE)

FOR SANITARY CONST. ONLY

NOTES:

1. PROFILE STATIONING ALONG CENTERLINE OF PIPE
2. SEE SERIES 10 FOR FULL UTILITY NETWORK PLAN VIEWS.
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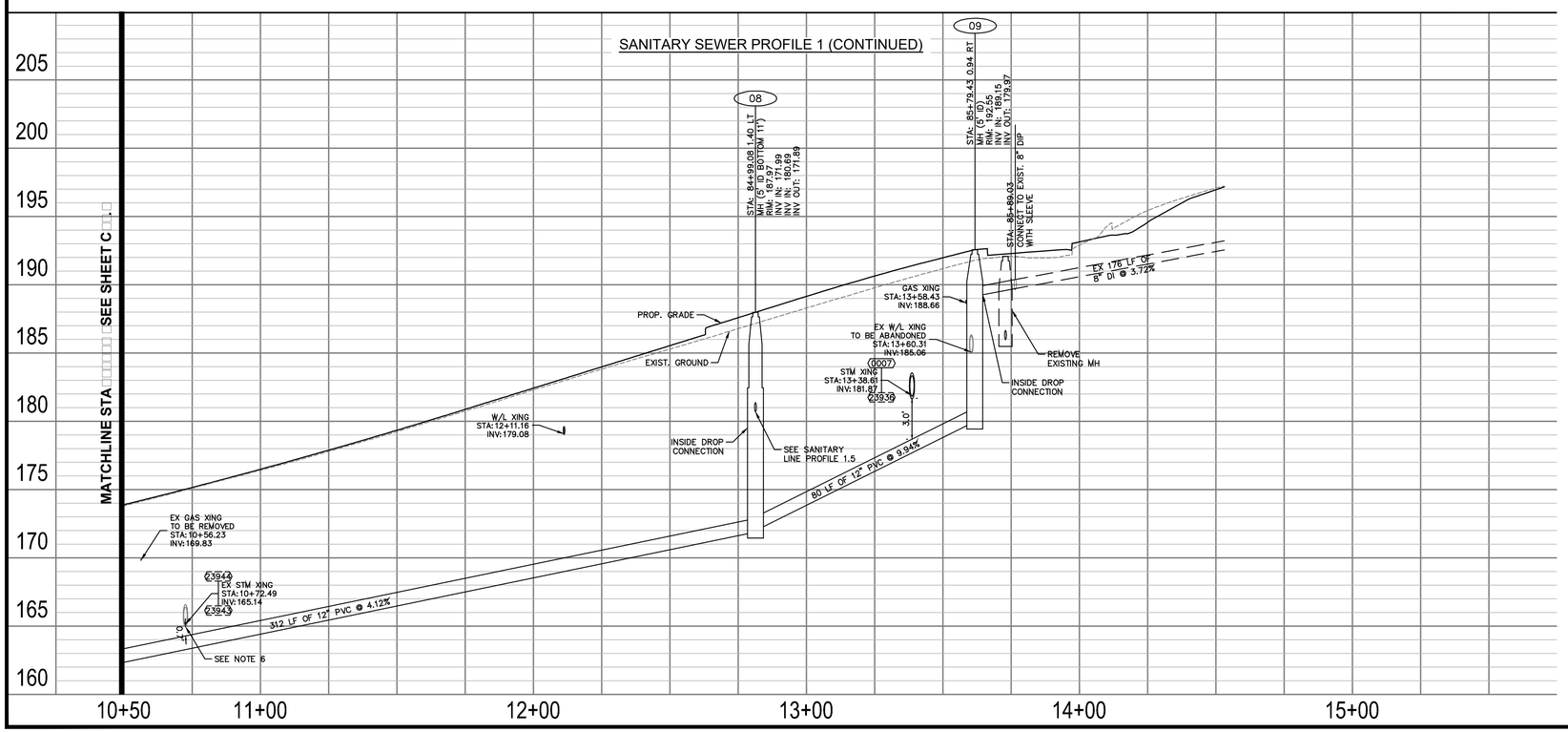
8. SEE SHEET C2.5 FOR INSIDE DROP CONNECTION DETAIL.

PROFILE VIEW LEGEND

- EXISTING PIPE/STRUCTURE TO REMAIN
- PROPOSED PIPE/STRUCTURE

PLAN VIEW LEGEND

- S — PROP. PVC SANITARY SEWER PIPE
- PROP. SANITARY SEWER MANHOLE
- EXISTING SANITARY SEWER MANHOLE
- 4 — PROP. SANITARY STRUCTURE NO.
- 10105 — EXISTING SANITARY STRUCTURE NO.
- FILL & ABANDON UTILITY LINE
- REMOVE UTILITY LINE



ARLINGTON
VIRGINIA

DEPARTMENT OF
ENVIRONMENTAL SERVICES

Facilities & Engineering Division
Engineering Bureau
2100 Clarendon Boulevard, Suite 813
Arlington, VA 22201
Phone: 703.228.3629
Fax: 703.228.3606

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11400 Commerce Park Drive, Suite 400
Reston Virginia 20191
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Fax: 703-674-1350

Seal

COMMONWEALTH OF VIRGINIA
EDWARD J. DELUCA
Lic. No. 0402054356
09/29/2022
PROFESSIONAL ENGINEER

Approvals	Date
Design Team Engineer Supervisor	
Construction Management Supervisor	
Water, Sewer, Streets Bureau Chief	
Transportation Director	
Project Manager	

Revisions	Date

Designed: MAT
Drawn: MAT
Checked: EJD
Miss Utility Transmittal #:

Filename: 010073-C-SSWR.dwg
Path: K:\NVA_RDWY\10010073 - columbia pike multimodal\production\task 2c final design of columbia pike segments\segment c\7.5.1 - 75% plans\segment c
Plotted: September 29, 2022
Plotted by: Miguel.Tyshing

ARLINGTON COUNTY, VIRGINIA
DEPARTMENT OF ENVIRONMENTAL SERVICES

SANITARY SEWER PLAN AND PROFILES
COLUMBIA PIKE - ROUTE 244
COLUMBIA PIKE - MULTIMODAL STREET IMPROVEMENTS
SEGMENT C
STA. 73□00 TO STA. □7□00

SCALE: HOR. 1" □25□VERT. 1" □5□ | SHEET: C12.3 of C12.4

ARLINGTON
VIRGINIA

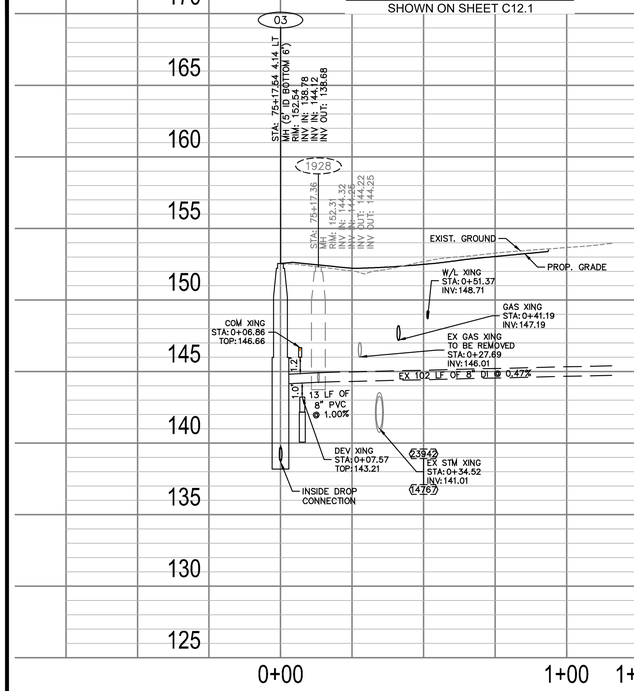
DEPARTMENT OF
ENVIRONMENTAL SERVICES

LUIS ARAYA
BUREAU CHIEF, DES - DEVELOPMENT SERVICES

11/15/2022
APPROVAL DATE

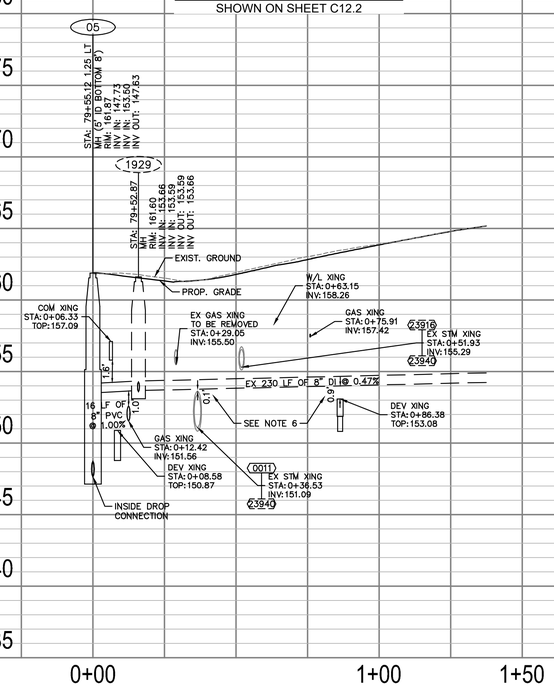
SANITARY SEWER PROFILE 1.2

SHOWN ON SHEET C12.1



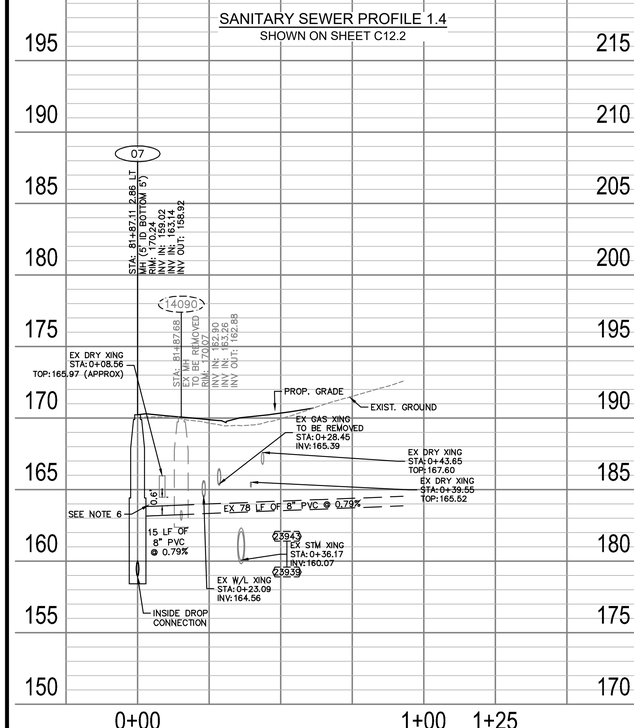
SANITARY SEWER PROFILE 1.3

SHOWN ON SHEET C12.2



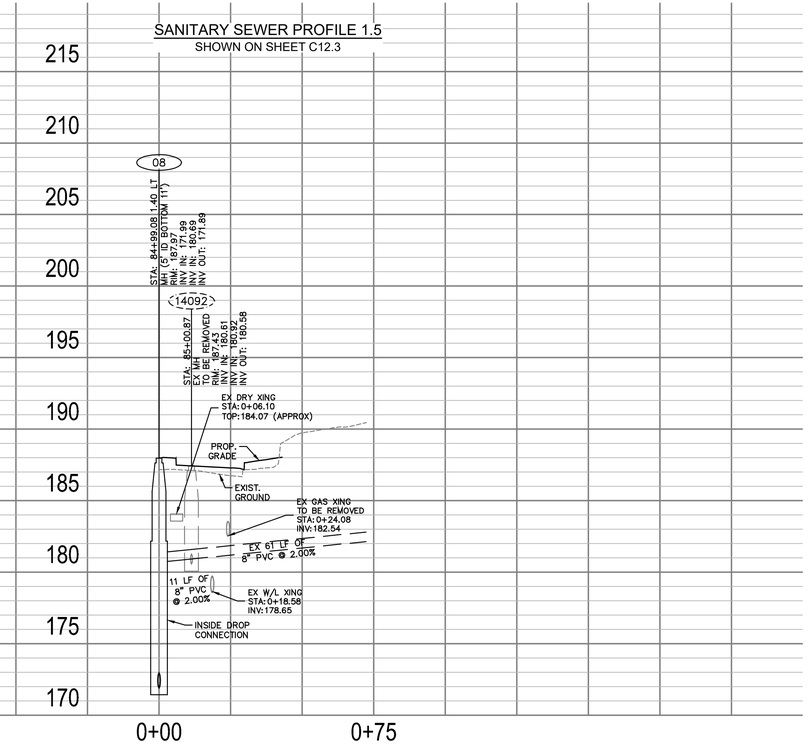
SANITARY SEWER PROFILE 1.4

SHOWN ON SHEET C12.2



SANITARY SEWER PROFILE 1.5

SHOWN ON SHEET C12.3



NOTES:

1. PROFILE STATIONING ALONG CENTERLINE OF PIPE
2. SEE SERIES 10 FOR FULL UTILITY NETWORK PLAN VIEWS.
3. CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE THROUGHOUT THE PROJECT LIMITS TO THE EXTENT POSSIBLE AT ALL TIMES. STORM/ SANITARY SEWER SHALL BE INSTALLED AND SEQUENCED TO MINIMIZE DOWN TIME REQUIRED FOR TIE-IN OR CUT-OVER OPERATIONS. SHOULD PUMP-AROUNDS BE REQUIRED TO COMPLETE STORM OR SANITARY SEWER INSTALLATIONS, THEY WILL BE INCIDENTAL TO THE COST OF PIPE AND STRUCTURE INSTALLATION.
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8. SEE SHEET C2.5 FOR INSIDE DROP CONNECTION DETAIL.

PROFILE VIEW LEGEND

- EXISTING PIPE/STRUCTURE TO REMAIN
- PROPOSED PIPE/STRUCTURE

PLAN VIEW LEGEND

- S — PROP. PVC SANITARY SEWER PIPE
- PROP. SANITARY SEWER MANHOLE
- (S) EXISTING SANITARY SEWER MANHOLE
- (4) PROP. SANITARY STRUCTURE NO.
- (1010S) EXISTING SANITARY STRUCTURE NO.
- FILL & ABANDON UTILITY LINE
- X · X · X · X · X · X · X · X · X · X · REMOVE UTILITY LINE

GRAPHIC SCALE IN FEET
0 12.5 25 50
(HORIZONTAL SCALE)

FOR SANITARY CONST. ONLY

ARLINGTON VIRGINIA
DEPARTMENT OF ENVIRONMENTAL SERVICES
Facilities & Engineering Division
Engineering Bureau
2100 Clarendon Boulevard, Suite 813
Arlington, VA 22201
Phone: 703.228.3629
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Seal

COMMONWEALTH OF VIRGINIA
EDWARD J. DELUCA
Lic. No. 0402054356
09/29/2022
PROFESSIONAL ENGINEER

Approvals	Date
Design Team Engineer Supervisor	
Construction Management Supervisor	
Water, Sewer, Streets Bureau Chief	
Transportation Director	
Project Manager	

Revisions	Date

Designed: MAT
Drawn: MAT
Checked: EJD
Miss Utility Transmittal #:

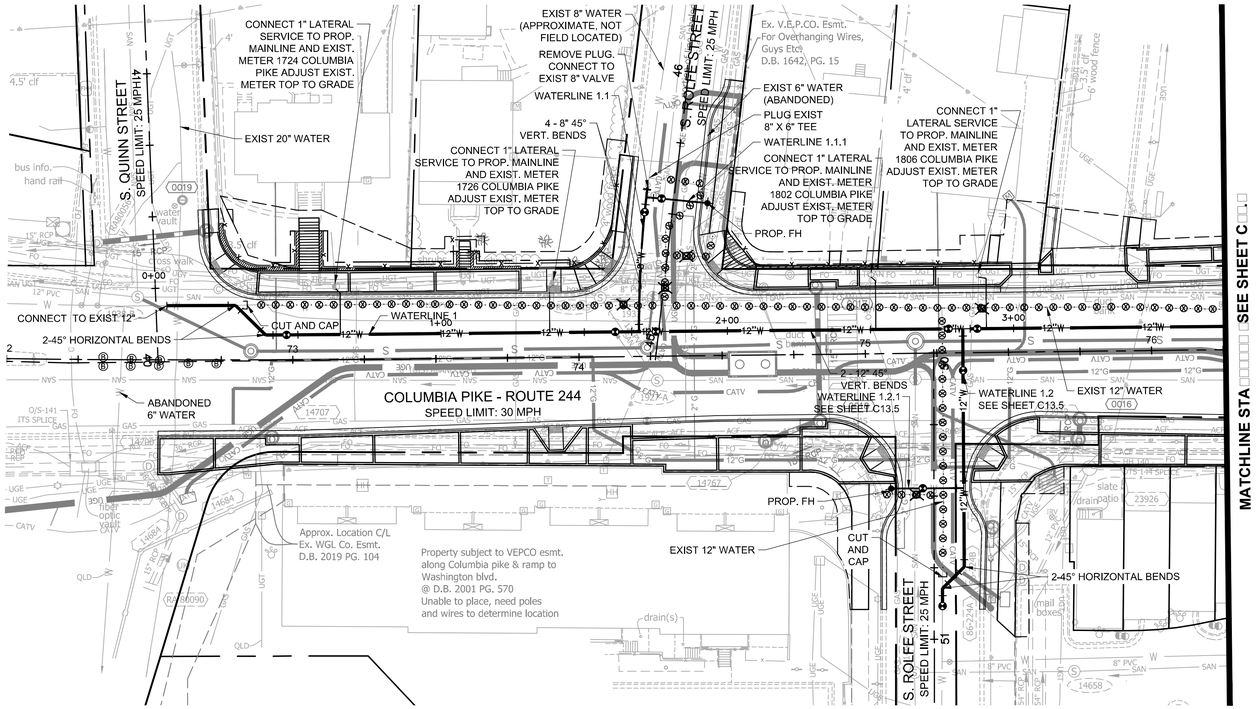
Filename: 010073-C-SSWR.dwg
Path: K:\NVA_RDWY\010073 - columbia pike multimodal\production\task 2.3 final design of columbia pike segments\segment c\7.5.1 - 75% design\plansheet
Plotted: September 29, 2022
Plotted by: Miguel.Tyshing

ARLINGTON COUNTY, VIRGINIA
DEPARTMENT OF ENVIRONMENTAL SERVICES

SANITARY SEWER PLAN AND PROFILES
COLUMBIA PIKE - ROUTE 244
COLUMBIA PIKE - MULTIMODAL STREET IMPROVEMENTS
SEGMENT C

SCALE:	HOR. 1" □25□VERT. 1" □5□	SHEET:	C12.4 of C12.4

ARLINGTON VIRGINIA
DEPARTMENT OF ENVIRONMENTAL SERVICES
LUIS ARAYA
BUREAU CHIEF, DES - DEVELOPMENT SERVICES
11/15/2022
APPROVAL DATE



GRAPHIC SCALE IN FEET
0 12.5 25 50
(HORIZONTAL SCALE)

FOR WATERLINE CONST. ONLY

NOTES:

1. PROFILE STATIONING SET ALONG CENTERLINE OF PIPE
2. SEE SERIES 10 FOR FULL UTILITY NETWORK PLAN VIEWS.
3. SEE SHEET C13.8 FOR RESTRAINT TABLE
4. CONTRACTOR TO CONFIRM EXISTING WATERLINE IS DECOMMISSIONED PRIOR TO REMOVAL. DESIGN ASSUMES THAT THE PROPOSED SANITARY SYSTEM IS GENERALLY INSTALLED PRIOR TO OTHER UTILITIES TO MITIGATE CONFLICTS.
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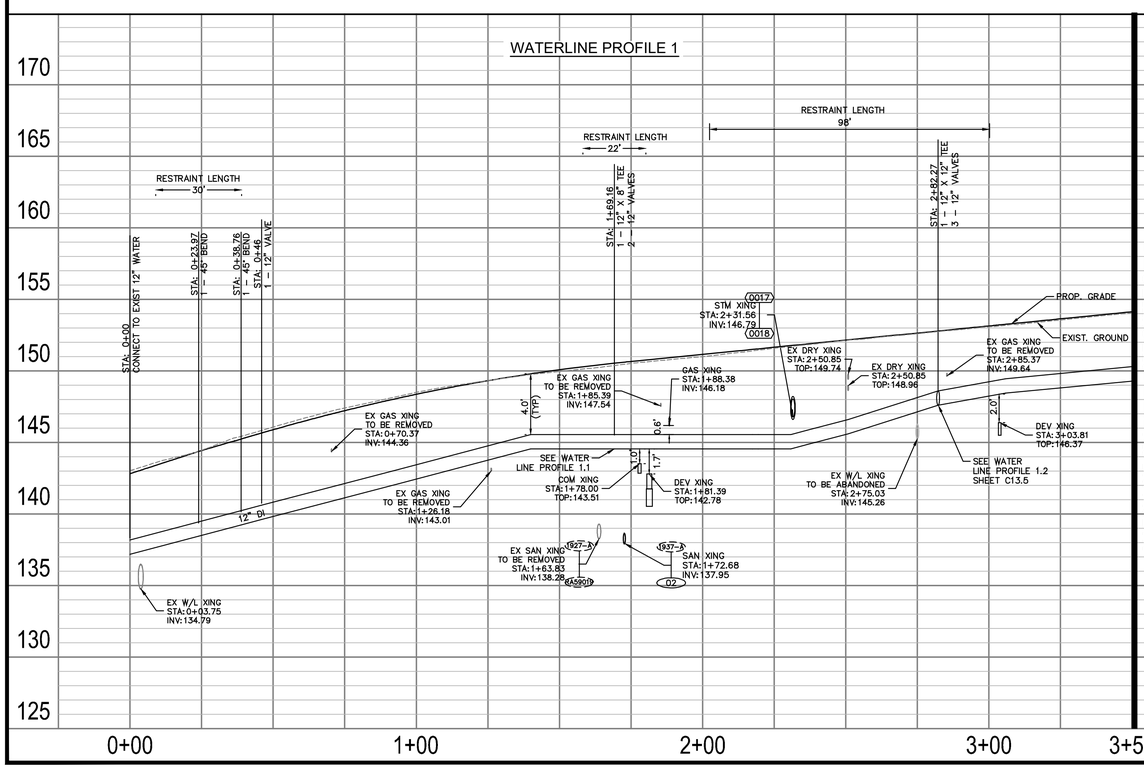
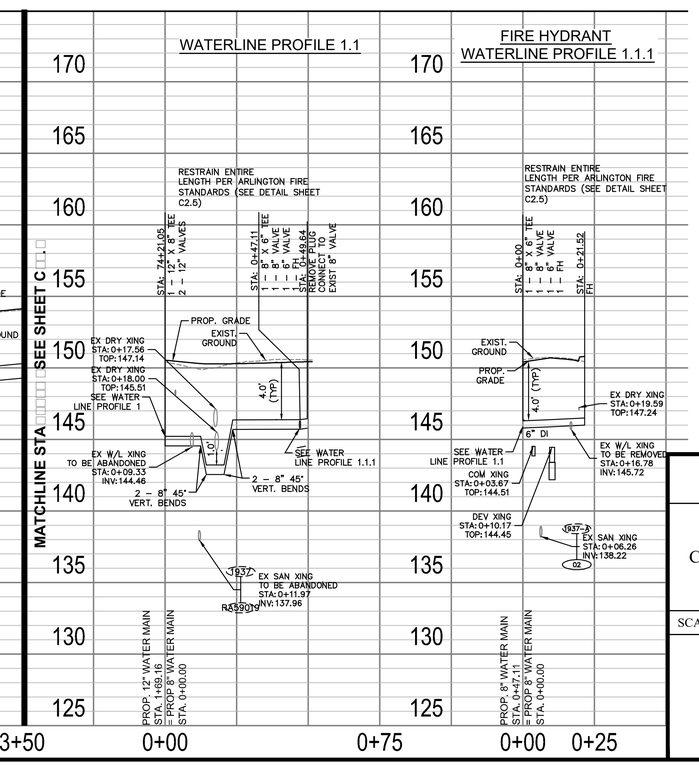
LEGEND

	PROP. SERVICE CONNECTION
4"W	PROP. 4" WATER PIPE
6"W	PROP. 6" WATER PIPE
8"W	PROP. 8" WATER PIPE
12"W	PROP. 12" WATER PIPE
	PROP. VALVE
	PROP. FIRE HYDRANT
	PROP. REDUCER
	PROP. TEE
	PROP. CROSS
	PROP. 11.25° BEND
	PROP. 22.5° BEND
	PROP. 45° BEND
	PROP. 90° BEND
	PROP. WATER METER
	PROP. CAP
	FILL & ABANDON UTILITY LINE
	REMOVE UTILITY LINE
	REMOVE VALVE BOX





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Phone: 703.228.3629
Fax: 703.228.3606

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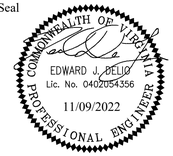
Seal



Approvals	Date
Design Team Engineer Supervisor	
Construction Management Supervisor	
Water, Sewer, Streets Bureau Chief	
Transportation Director	
Project Manager	

Revisions	Date

Designed: MAT
Drawn: MAT
Checked: EJD
Miss Utility Transmittal #:

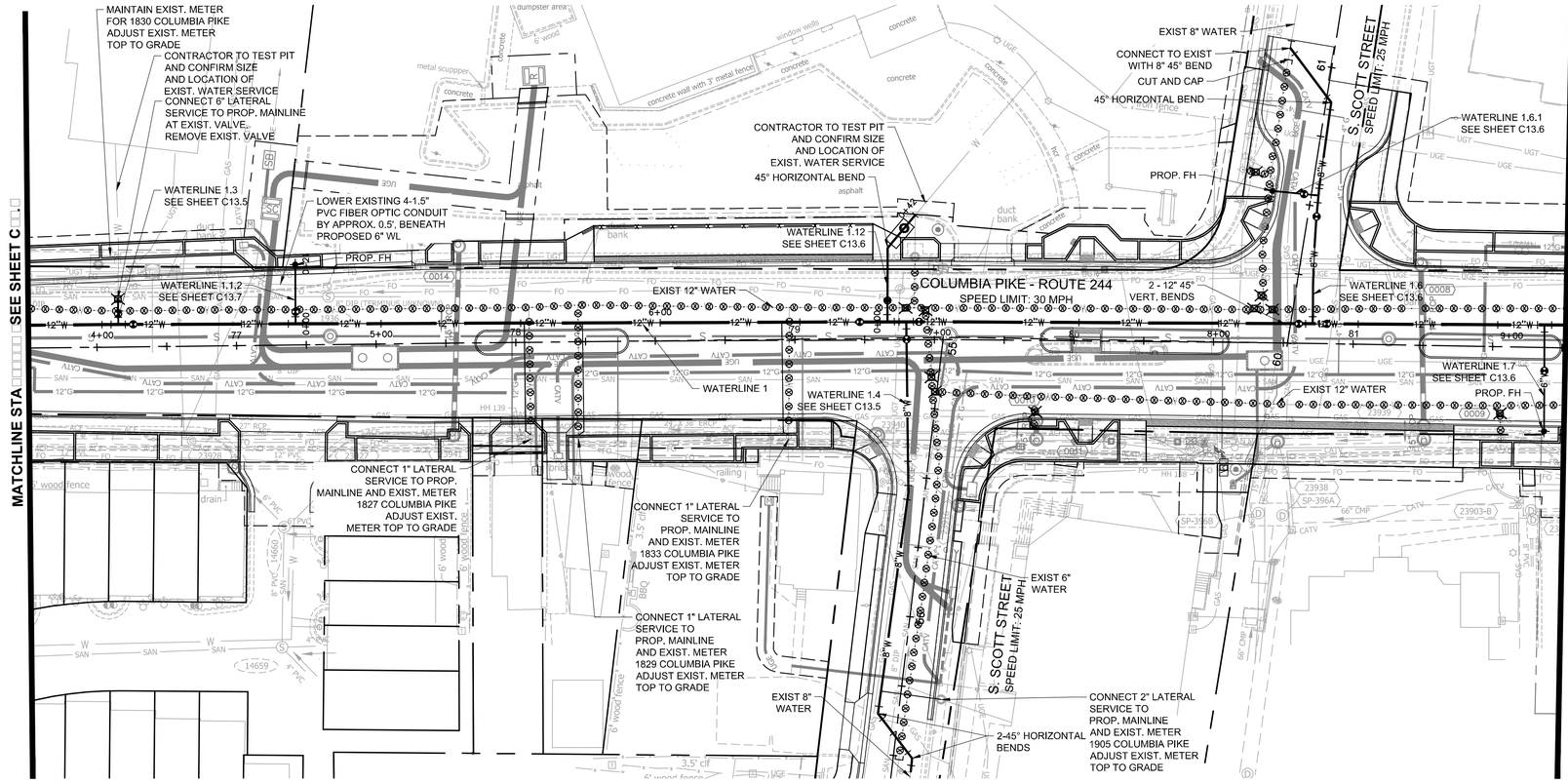
Filename: 010073-C-WATR.dwg
Path: K:\NVA_RDWY\010073 - columbia pike multimodal\production\task 2c final designs of columbia pike segments\segment c\75.1 - 75% segment c.dwg
Plotted: November 09, 2022
Plotted by: Miguel.Tyshing

ARLINGTON COUNTY, VIRGINIA
DEPARTMENT OF ENVIRONMENTAL SERVICES

WATERLINE PLAN AND PROFILES
COLUMBIA PIKE - ROUTE 244
COLUMBIA PIKE - MULTIMODAL STREET IMPROVEMENTS
SEGMENT C
STA. 72□00 TO STA. 76□25

SCALE: HOR. 1" □25□VERT. 1" □5□ | SHEET: C13.1 of C13.□

ARLINGTON VIRGINIA
DEPARTMENT OF ENVIRONMENTAL SERVICES
LUIS ARAYA
BUREAU CHIEF, DES - DEVELOPMENT SERVICES
11/15/2022
APPROVAL DATE



GRAPHIC SCALE IN FEET
0 12.5 25 50
(HORIZONTAL SCALE)

FOR WATERLINE CONST. ONLY

NOTES:

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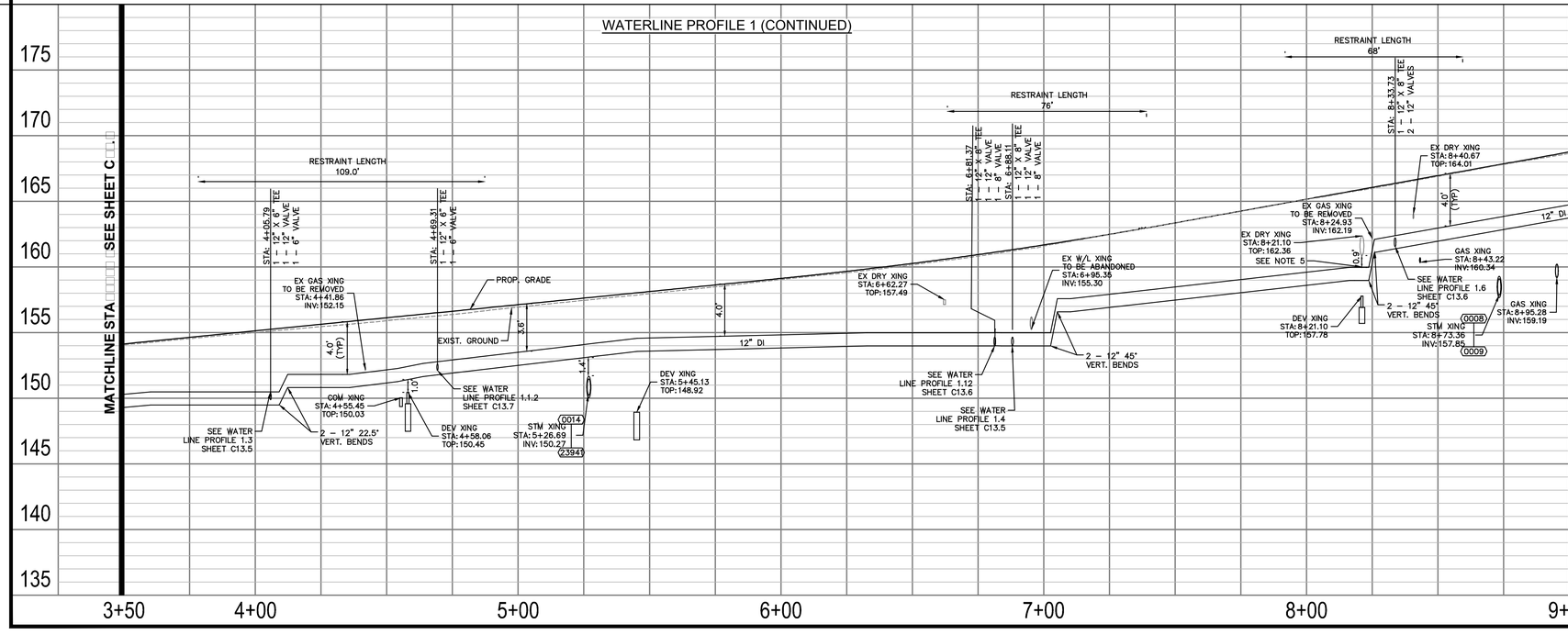
LEGEND

- PROP. SERVICE CONNECTION
- 4"W — PROP. 4" WATER PIPE
- 6"W — PROP. 6" WATER PIPE
- 8"W — PROP. 8" WATER PIPE
- 12"W — PROP. 12" WATER PIPE
- PROP. VALVE
- PROP. FIRE HYDRANT
- PROP. REDUCER
- PROP. TEE
- PROP. CROSS
- PROP. 11.25° BEND
- PROP. 22.5° BEND
- PROP. 45° BEND
- PROP. 90° BEND
- PROP. WATER METER
- PROP. CAP
- FILL & ABANDON UTILITY LINE
- REMOVE UTILITY LINE
- REMOVE VALVE BOX



ARLINGTON VIRGINIA

DEPARTMENT OF ENVIRONMENTAL SERVICES

Facilities & Engineering Division
Engineering Bureau
2100 Clarendon Boulevard, Suite 813
Arlington, VA 22201
Phone: 703.228.3629
Fax: 703.228.3606

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11400 Commerce Park Drive, Suite 400
Reston Virginia 20191
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Fax: 703-674-1350

Seal
COMMONWEALTH OF VIRGINIA
EDWARD J. DELUCA
Lic. No. 0402054356
11/09/2022
PROFESSIONAL ENGINEER

Approvals	Date
Design Team Engineer Supervisor	
Construction Management Supervisor	
Water, Sewer, Streets Bureau Chief	
Transportation Director	
Project Manager	

Revisions	Date

Designed: MAT
Drawn: MAT
Checked: EJD
Miss Utility Transmittal #:

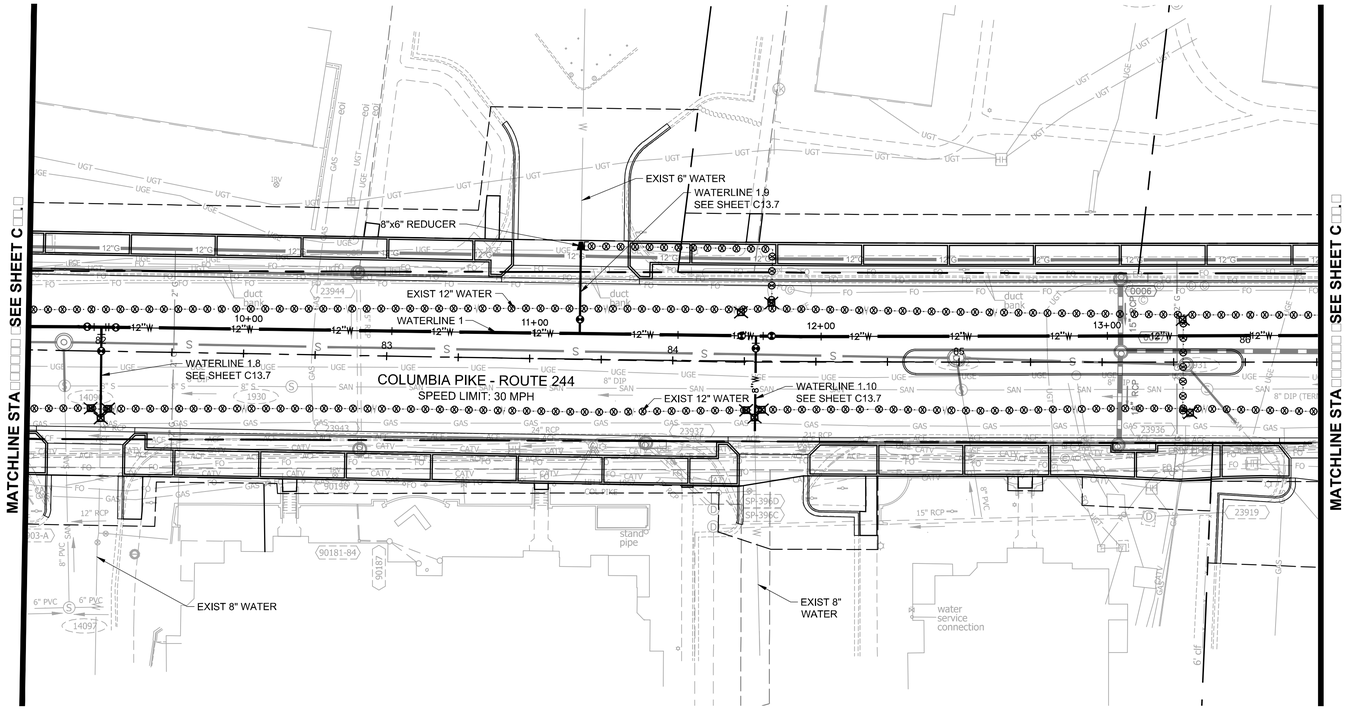
Filename: 010073-C-WATR.dwg
Path: K:\NVA_RDWY\10010073 - columbia pike multimodal\production\task 2c final designs of columbia pike segments\segment c\75.1 - 75% c\waterline\
Plotted: November 09, 2022
Plotted by: Miguel.Tyshing

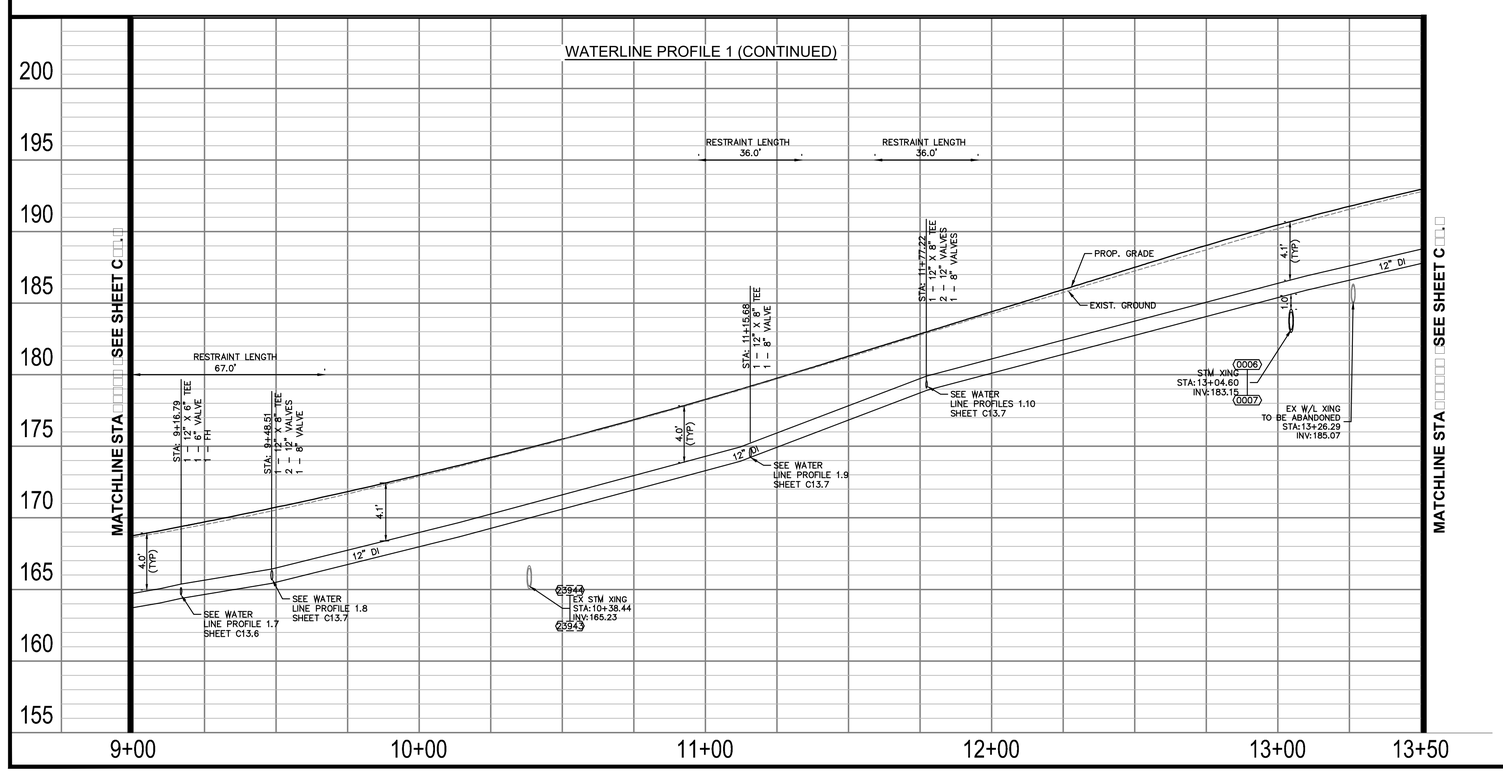
ARLINGTON COUNTY, VIRGINIA
DEPARTMENT OF ENVIRONMENTAL SERVICES

WATERLINE PLAN AND PROFILES
COLUMBIA PIKE - ROUTE 244
COLUMBIA PIKE - MULTIMODAL STREET IMPROVEMENTS
SEGMENT C
STA. 76□25 TO STA. □1□75

SCALE: HOR. 1" □25□VERT. 1" □5□ | SHEET: C13.2 of C13.7

ARLINGTON VIRGINIA
DEPARTMENT OF ENVIRONMENTAL SERVICES
LUIS ARAYA
BUREAU CHIEF, DES - DEVELOPMENT SERVICES
11/15/2022
APPROVAL DATE





GRAPHIC SCALE IN FEET
0 12.5 25 50
(HORIZONTAL SCALE)

FOR WATERLINE CONST. ONLY

NOTES:

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2. SEE SERIES 10 FOR FULL UTILITY NETWORK PLAN VIEWS.
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	PROP. CAP
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Filename: 010073-C-WATR.dwg
Path: K:\NVA, RDWY\010073 - columbia pike multimodal\production\task 2.5 final design of columbia pike segments\segment c\7.5.1 - 75% design\plansheets
Plotted: November 10, 2022
Plotted by: Miguel.Tyshing

ARLINGTON COUNTY, VIRGINIA
DEPARTMENT OF ENVIRONMENTAL SERVICES

WATERLINE PLAN AND PROFILES
COLUMBIA PIKE - ROUTE 244
COLUMBIA PIKE - MULTIMODAL STREET IMPROVEMENTS
SEGMENT C
STA. 1 75 TO STA. 6 25

SCALE: HOR. 1" 25 VERT. 1" 5 | SHEET: C13.3 of C13.

ARLINGTON VIRGINIA
DEPARTMENT OF ENVIRONMENTAL SERVICES
LUIS ARAYA
BUREAU CHIEF, DES - DEVELOPMENT SERVICES
11/15/2022
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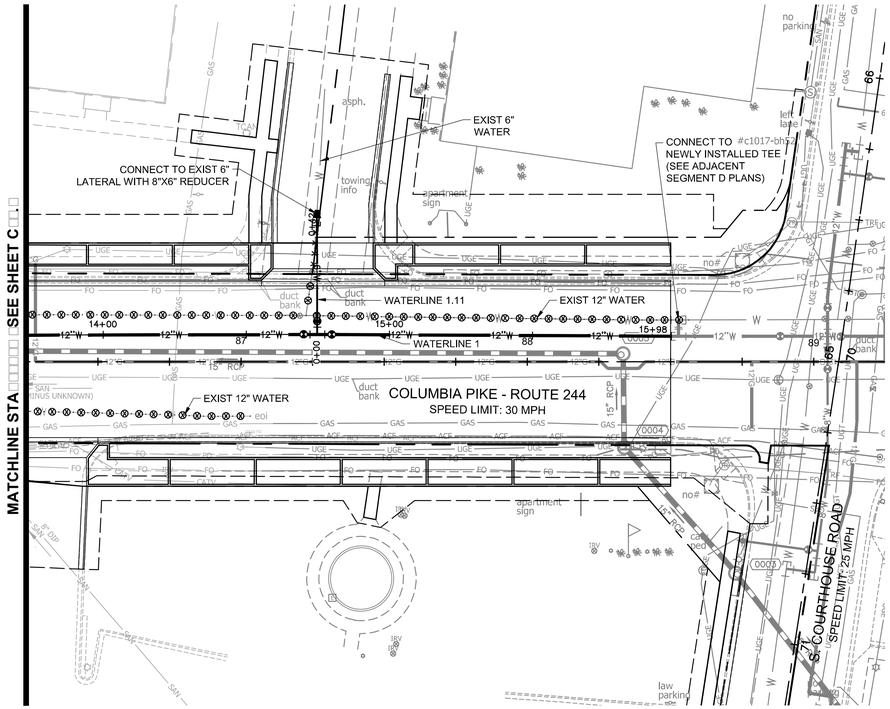

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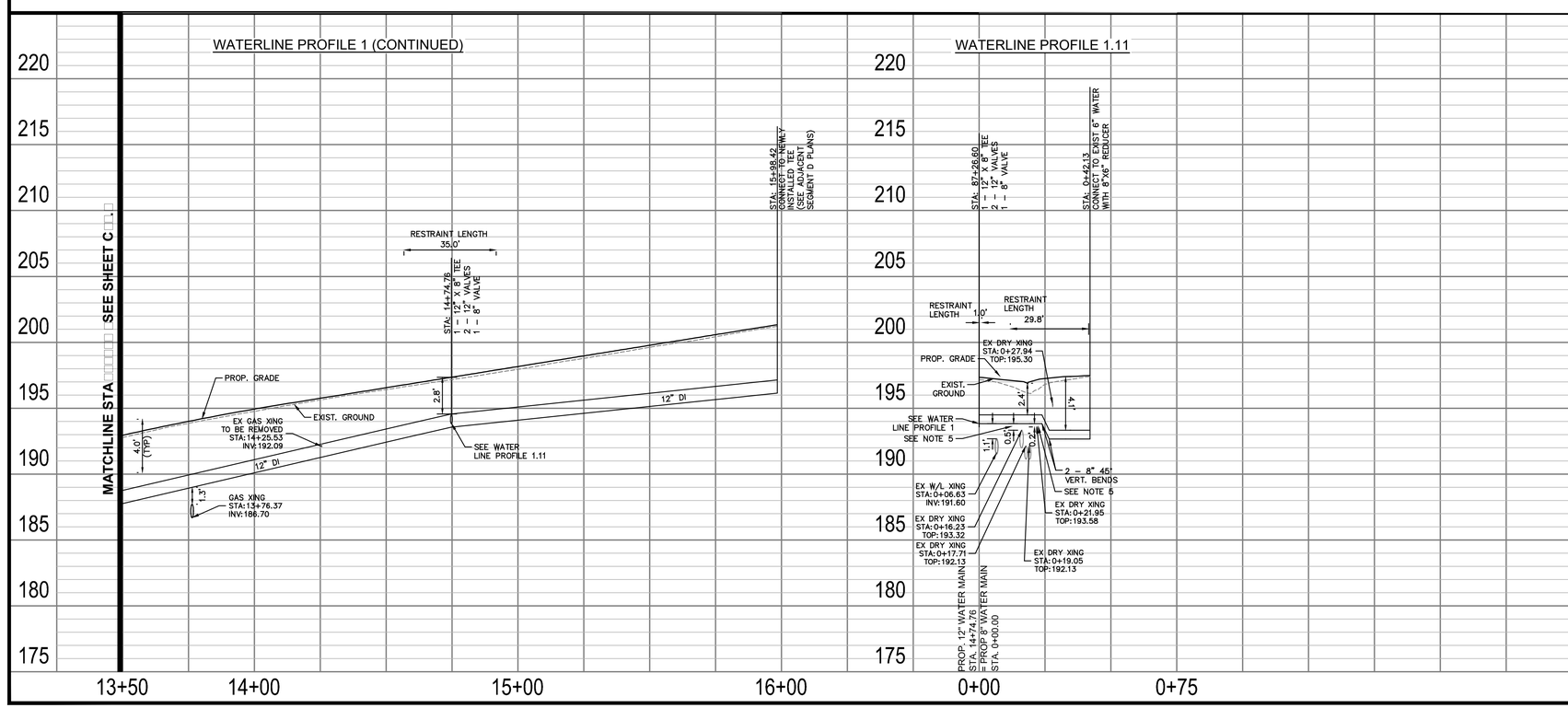
	REMOVE UTILITY LINE
	REMOVE VALVE BOX



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ARLINGTON COUNTY, VIRGINIA
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WATERLINE PLAN AND PROFILES
COLUMBIA PIKE - ROUTE 244
COLUMBIA PIKE - MULTIMODAL STREET IMPROVEMENTS
SEGMENT C
STA. 6+25 TO STA. 9+25

SCALE: HOR. 1" = 25' VERT. 1" = 5'
SHEET: C13.4 of C13.

ARLINGTON VIRGINIA
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LUIS ARAYA
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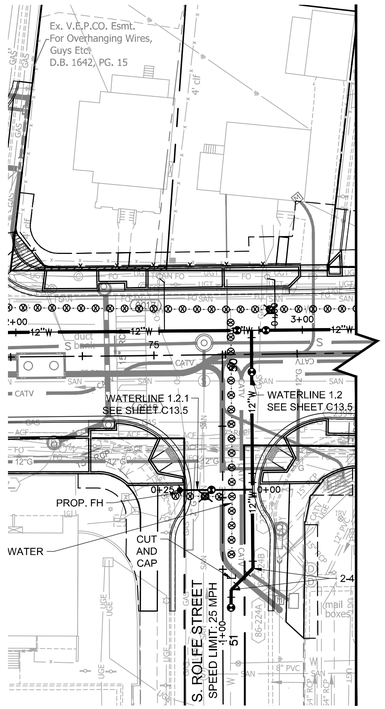

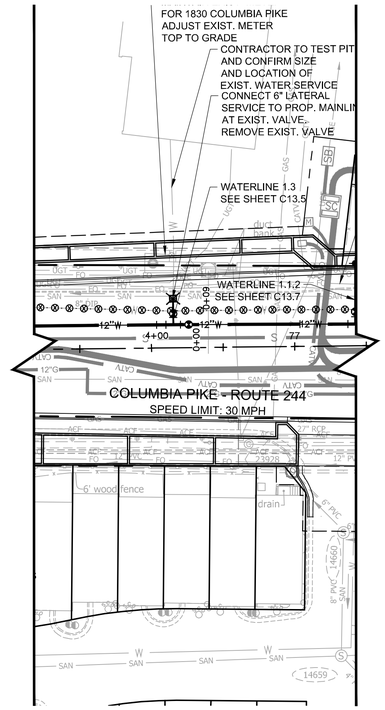

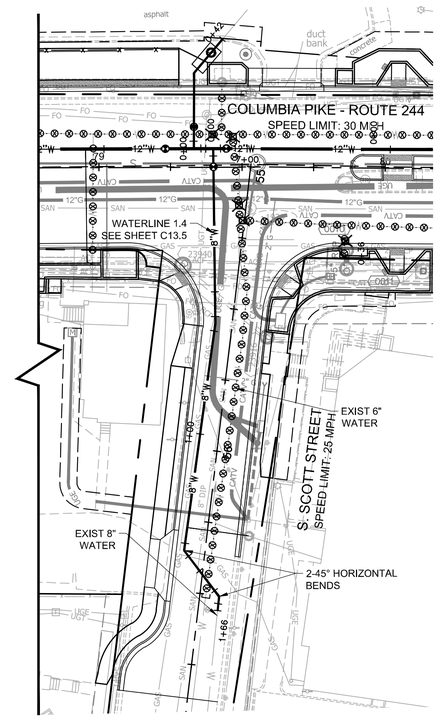

FOR WATERLINE CONST. ONLY

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	PROP. 90° BEND
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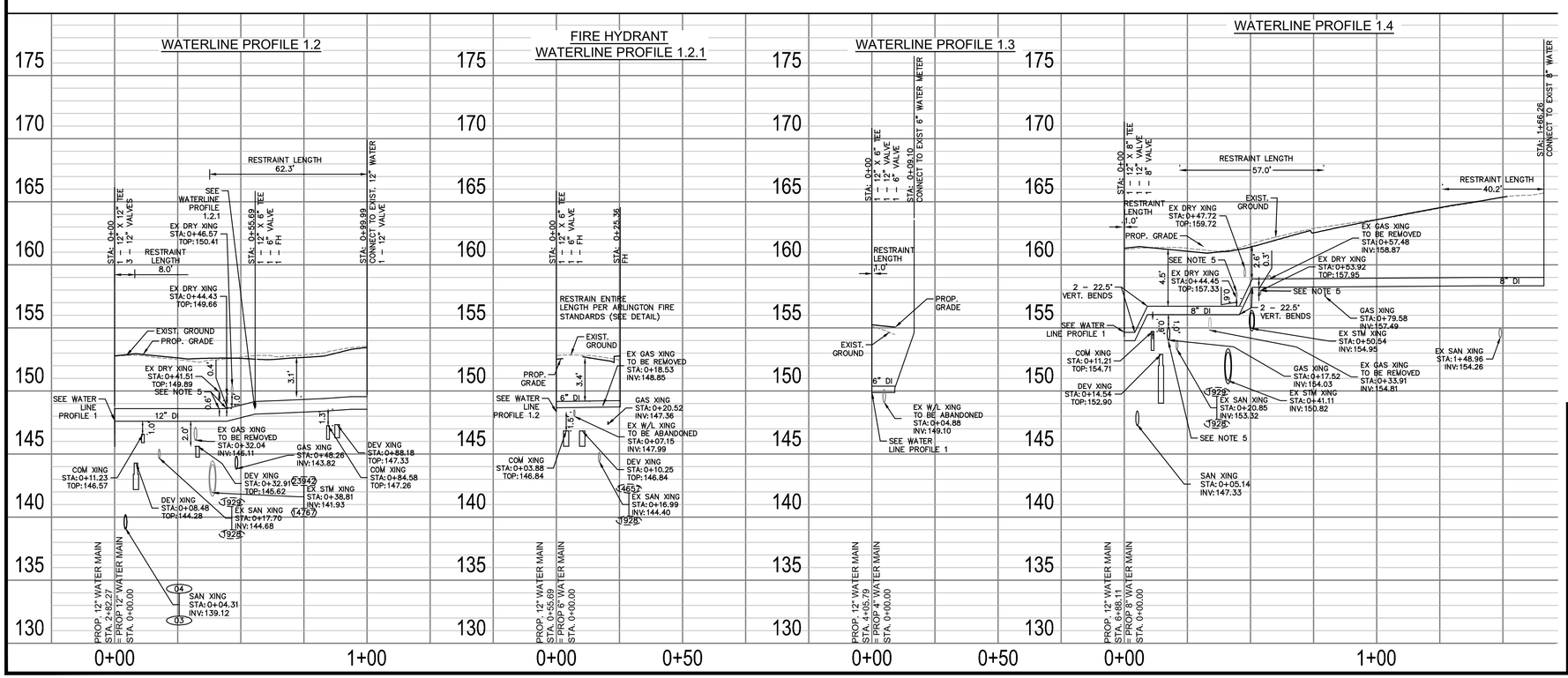
	PROP. CAP
	FILL & ABANDON UTILITY LINE
	REMOVE UTILITY LINE
	REMOVE VALVE BOX



GRAPHIC SCALE IN FEET
0 12.5 25 50
(HORIZONTAL SCALE)

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11/09/2022
PROFESSIONAL ENGINEER

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Design Team Engineer Supervisor	
Construction Management Supervisor	
Water, Sewer, Streets Bureau Chief	
Transportation Director	
Project Manager	

Revisions	Date

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Drawn: MAT
Checked: EJD
Miss Utility Transmittal #:

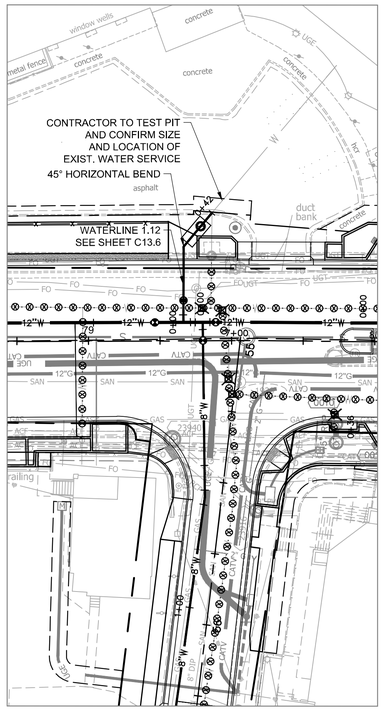
Filename: 010073-C-WATR.dwg
Path: K:\NVA_RDWY\010073 columbia pike multimodal\production\task 2.5 final design of columbia pike segments\segment c\7.5.1 - 75% design\plansheets
Plotted: November 09, 2022
Plotted by: Miguel.Tyshing

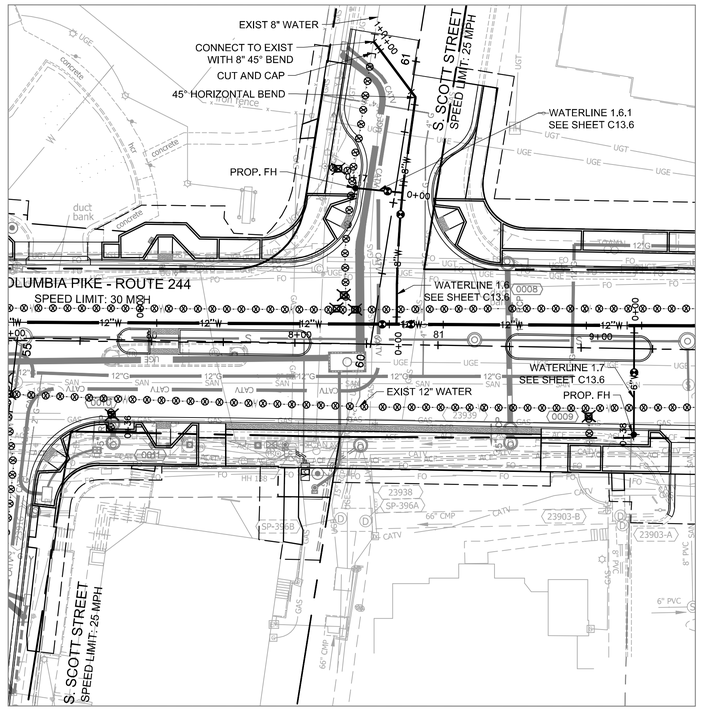
ARLINGTON COUNTY, VIRGINIA
DEPARTMENT OF ENVIRONMENTAL SERVICES

WATERLINE PLAN AND PROFILES - CONNECTIONS
COLUMBIA PIKE - ROUTE 244
COLUMBIA PIKE - MULTIMODAL STREET IMPROVEMENTS
SEGMENT C

SCALE: HOR. 1" □25□VERT. 1" □5□ | SHEET: C13.5 of C13.□

ARLINGTON VIRGINIA
DEPARTMENT OF ENVIRONMENTAL SERVICES
LUIS ARAYA
BUREAU CHIEF, DES - DEVELOPMENT SERVICES
11/15/2022
APPROVAL DATE





GRAPHIC SCALE IN FEET
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(HORIZONTAL SCALE)

FOR WATERLINE CONST. ONLY

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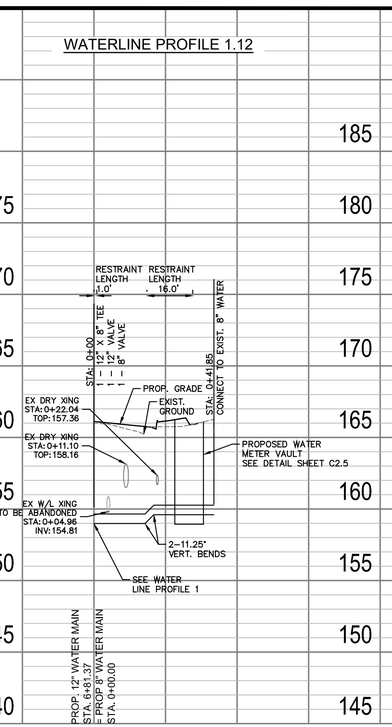
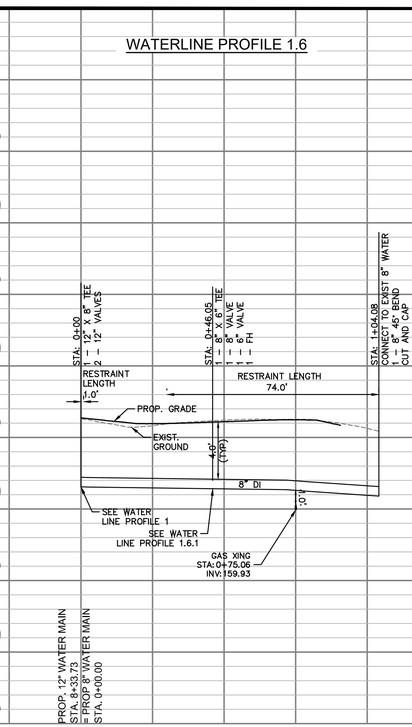
- PROP. WATER METER
- PROP. CAP
- FILL & ABANDON UTILITY LINE
- REMOVE UTILITY LINE
- REMOVE VALVE BOX

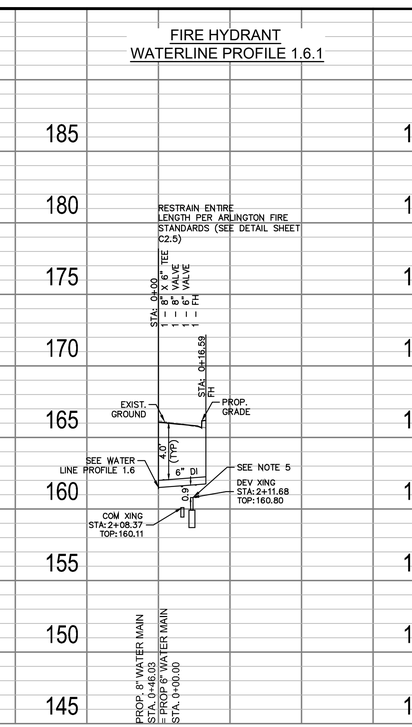
WATERLINE PROFILE 1.12



WATERLINE PROFILE 1.6



FIRE HYDRANT
WATERLINE PROFILE 1.6.1



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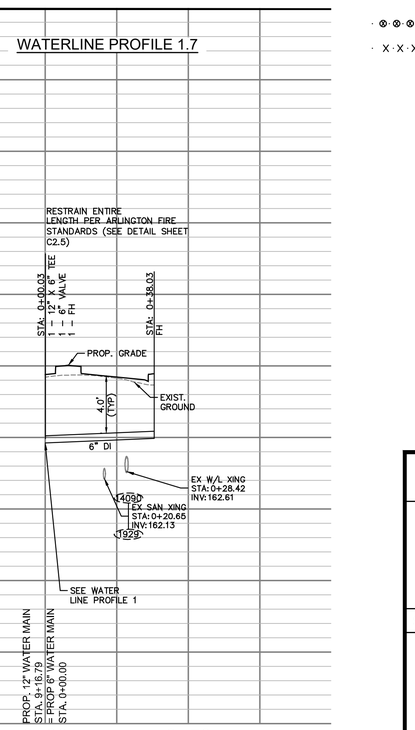

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Miss Utility Transmittal #:

Filename: 010073-C-WATR.dwg
Path: K:\NVA_RDWY\010073\7.5 columbia pike multimodal\production\task 7.5 final design of columbia pike segments\segment c\7.5.1 - 75% design\plansheets
Plotted: November 09, 2022
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ARLINGTON COUNTY, VIRGINIA
DEPARTMENT OF ENVIRONMENTAL SERVICES

WATERLINE PLAN AND PROFILES - CONNECTIONS
COLUMBIA PIKE - ROUTE 244
COLUMBIA PIKE - MULTIMODAL STREET IMPROVEMENTS
SEGMENT C

SCALE: HOR. 1" □25□VERT. 1" □5□ | SHEET: C13.6 of C13.□

ARLINGTON VIRGINIA
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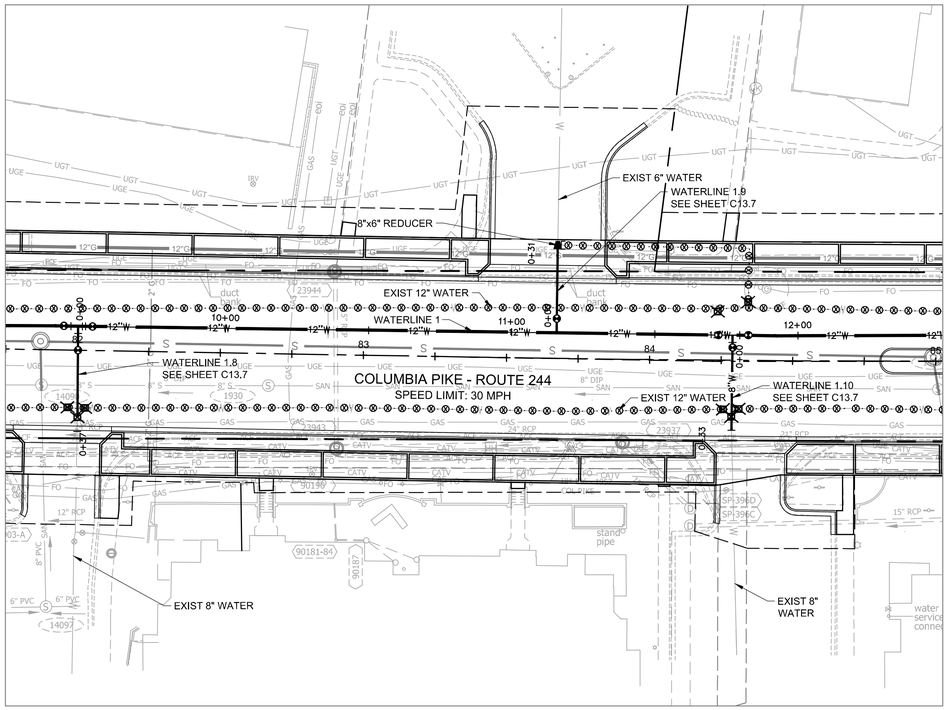

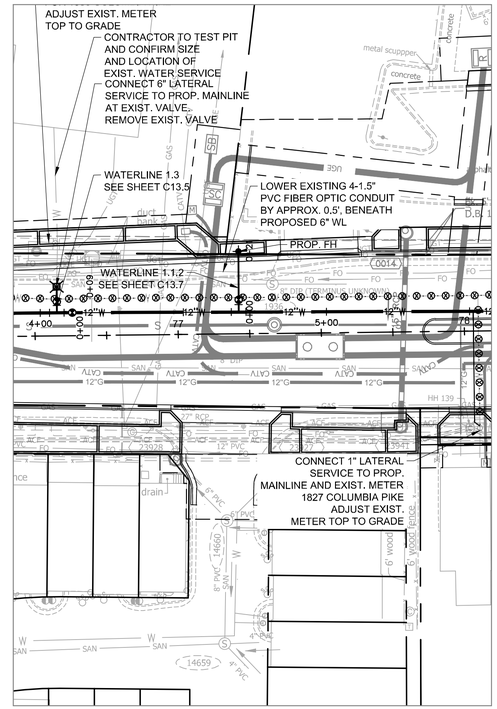

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0 12.5 25 50
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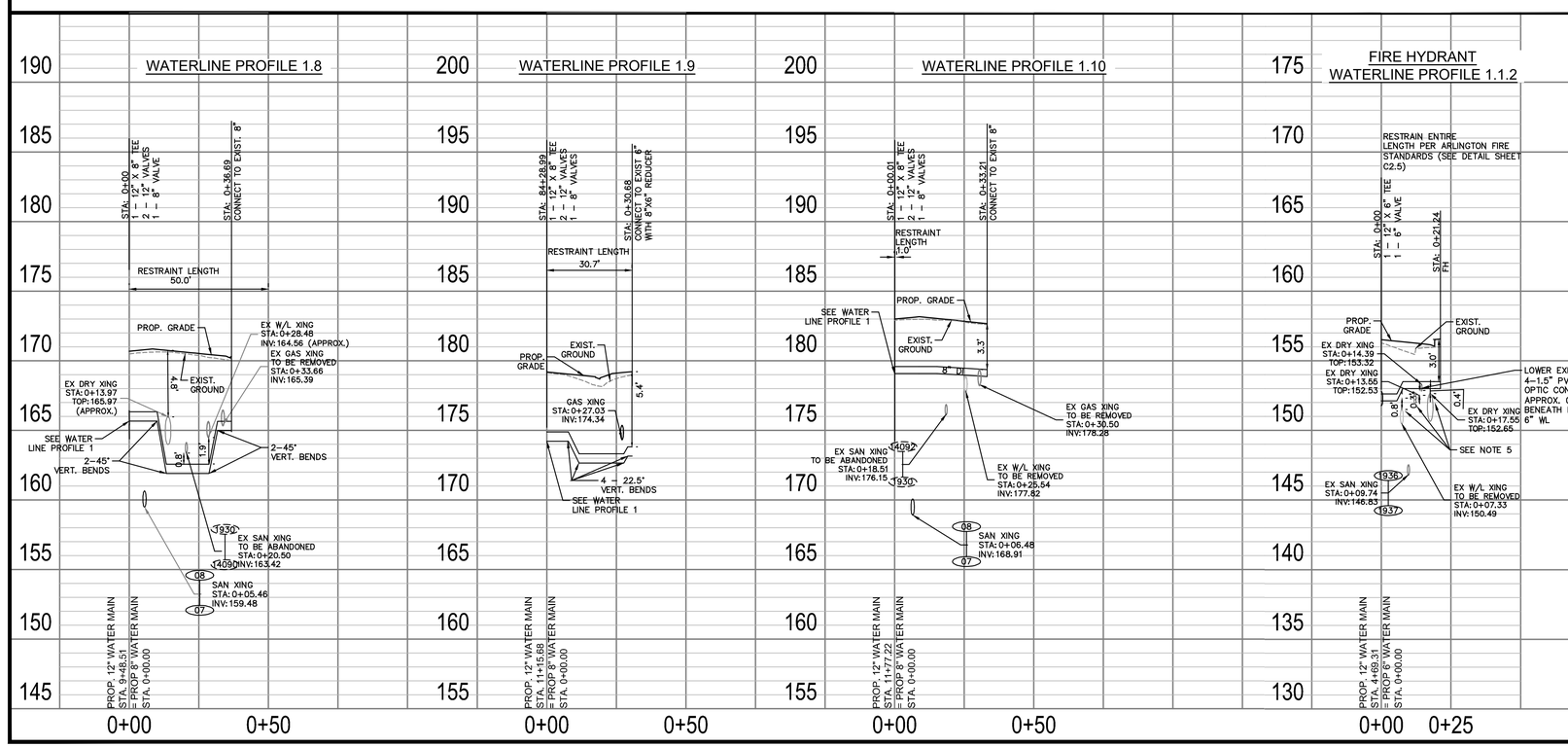

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Miss Utility Transmittal #:

Filename: 010073-C-WATR.dwg
Path: R:\NVA, RDWY\010073\01-columbia pike multimodal\production\task 2.5 final design of columbia pike segments\segment c\7.5.1 - 75% design\plandwgs
Plotted: November 10, 2022
Plotted by: Miguel.Tyshing

ARLINGTON COUNTY, VIRGINIA
DEPARTMENT OF ENVIRONMENTAL SERVICES

WATERLINE PLAN AND PROFILES - CONNECTIONS
COLUMBIA PIKE - ROUTE 244
COLUMBIA PIKE - MULTIMODAL STREET IMPROVEMENTS
SEGMENT C

SCALE: HOR. 1" □25□VERT. 1" □5□ | SHEET: C13.7 of C13.□

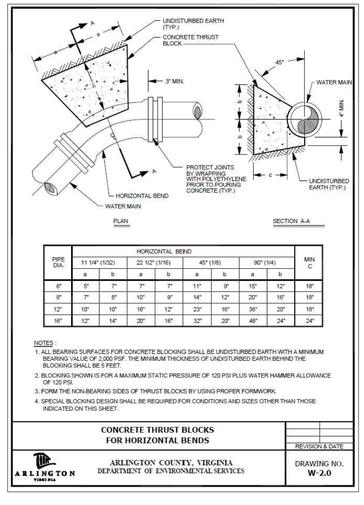
ARLINGTON VIRGINIA
LUIS ARAYA
BUREAU CHIEF, DES - DEVELOPMENT SERVICES
DEPARTMENT OF ENVIRONMENTAL SERVICES
11/15/2022
APPROVAL DATE

WATERLINE RESTRAINT LENGTHS

Site Name	Fitting Type	Pipe Material	Soil Type	Safety Factor	Trench Type	Depth of Bury	Test Pressure	Nominal Size	Bend Angle	Branch Size	Length Along Run	Reduced Size	Lowside Depth	Restraint Length	Restraint Length 2	Site Notes
Waterline 1																
0+23.97	Horizontal Bend	Ductile Iron	GP	1.5	5	4	250	12	45					15 ft.		
0+38.76	Horizontal Bend	Ductile Iron	GP	1.5	5	4	250	12	45					15 ft.		
1+69.16	Tee	Ductile Iron	GP	1.5	5	4	250	12		8		11		1 ft.		
2+34.43	Vertical Offset	Ductile Iron	GP	1.5	5	4	250	12	45				6	34 ft.	10 ft.	
2+82.27	Tee	Ductile Iron	GP	1.5	5	4	250	12		12		18		8 ft.		
4+05.79	Tee	Ductile Iron	GP	1.5	5	4	250	12		4		18		1 ft.		
4+09.02	Vertical Offset	Ductile Iron	GP	1.5	5	4	250	12	22.5				5	17 ft.	6 ft.	
4+69.31	Tee	Ductile Iron	GP	1.5	5	4	250	12		6		18		1 ft.		
6+81.37	Tee	Ductile Iron	GP	1.5	5	4	250	12		8		18		1 ft.		
6+88.11	Tee	Ductile Iron	GP	1.5	5	4	250	12		8		18		1 ft.		
7+02.62	Vertical Offset	Ductile Iron	GP	1.5	5	4	250	12	45				7	34 ft.	9 ft.	
8+23.65	Vertical Offset	Ductile Iron	GP	1.5	5	4	250	12	45				6	34 ft.	10 ft.	
8+33.73	Tee	Ductile Iron	GP	1.5	5	4	250	12		6		18		1 ft.		
9+16.79	Tee	Ductile Iron	GP	1.5	5	4	250	12		6		18		1 ft.		
9+48.51	Tee	Ductile Iron	GP	1.5	5	4	250	12		6		18		1 ft.		
11+15.68	Tee	Ductile Iron	GP	1.5	5	4	250	12		8		18		1 ft.		
11+77.22	Tee	Ductile Iron	GP	1.5	5	4	250	12		8		18		1 ft.		
14+74.83	Tee	Ductile Iron	GP	1.5	5	3	250	12		6		18		1 ft.		
Waterline 1.1																
0+00.00	Tee	Ductile Iron	GP	1.5	5	4	250	12		8		11		1 ft.		
0+12.38	Vertical Offset	Ductile Iron	GP	1.5	5	4	250	8	45				7	24 ft.	6 ft.	
0+20.53	Vertical Offset	Ductile Iron	GP	1.5	5	4	250	8	45				7	24 ft.	6 ft.	
0+47.11	Tee	Ductile Iron	GP	1.5	5	4	250	8		6 none						
Waterline 1.1.1																
0+00.00	Tee	Ductile Iron	GP	1.5	5	4	250	8		6 none						
0+21.52	Dead End	Ductile Iron	GP	1.5	5	4	250	6						44 ft.		
Waterline 1.1.2																
0+00.00	Tee	Ductile Iron	GP	1.5	5	4	250	12		6		18		1 ft.		
0+05.55	Vertical Offset	Ductile Iron	GP	1.5	5	3	250	6	22.5				4	12 ft.	4 ft.	
0+21.24	Dead End	Ductile Iron	GP	1.5	5	3	250	6						44 ft.		
Waterline 1.2																
0+00.00	Tee	Ductile Iron	GP	1.5	5	4	250	12		12		18		8 ft.		
0+55.69	Tee	Ductile Iron	GP	1.5	5	4	250	12		6		18		1 ft.		
0+83.19	Horizontal Bend	Ductile Iron	GP	1.5	5	4	250	12	45					15 ft.		
0+93.81	Horizontal Bend	Ductile Iron	GP	1.5	5	4	250	12	45					15 ft.		
Waterline 1.2.1																
0+00.00	Tee	Ductile Iron	GP	1.5	5	4	250	12		6		18		1 ft.		
0+25.36	Dead End	Ductile Iron	GP	1.5	5	4	250	6						44 ft.		
Waterline 1.3																
0+00.00	Tee	Ductile Iron	GP	1.5	5	3.5	250	12		4		18		1 ft.		
Waterline 1.4																
0+00.00	Tee	Ductile Iron	GP	1.5	5	4	250	12		8		18		1 ft.		
0+04.18	Vertical Offset	Ductile Iron	GP	1.5	5	4	250	8	22.5				7	24 ft.	6 ft.	
0+45.54	Vertical Offset	Ductile Iron	GP	1.5	5	3	250	8	22.5				4	31 ft.	11 ft.	
1+41.06	Horizontal Bend	Ductile Iron	GP	1.5	5	4	250	8	45					7 ft.		
1+61.26	Horizontal Bend	Ductile Iron	GP	1.5	5	4	250	8	45					7 ft.		
Waterline 1.6																
0+00.00	Tee	Ductile Iron	GP	1.5	5	4	250	12		8		18		1 ft.		
0+46.03	Tee	Ductile Iron	GP	1.5	5	4	250	8		6		16		1 ft.		
0+79.62	Horizontal Bend	Ductile Iron	GP	1.5	5	4	250	8	45					14 ft.		
1+04.06	Horizontal Bend	Ductile Iron	GP	1.5	5	4	250	8	45					14 ft.		
Waterline 1.6.1																
0+00.00	Tee	Ductile Iron	GP	1.5	5	4	250	8		6		16		1 ft.		
0+16.52	Dead End	Ductile Iron	GP	1.5	5	4	250	6						44 ft.		
Waterline 1.7																
0+00.00	Tee	Ductile Iron	GP	1.5	5	4	250	12		6		18		1 ft.		
0+38.03	Dead End	Ductile Iron	GP	1.5	5	4	250	6						44 ft.		
Waterline 1.8																
0+00.00	Tee	Ductile Iron	GP	1.5	5	5	250	12		6		18		1 ft.		
0+09.98	Vertical Offset	Ductile Iron	GP	1.5	5	5	250	6	45				8	15 ft.	4 ft.	
0+28.68	Vertical Offset	Ductile Iron	GP	1.5	5	5	250	6	45				8	15 ft.	4 ft.	
Waterline 1.9																
0+00.00	Tee	Ductile Iron	GP	1.5	5	4	250	12		8		18		1 ft.		
0+07.77	Vertical Offset	Ductile Iron	GP	1.5	5	4	250	8	22.5				6	24 ft.	7 ft.	
0+27.65	Vertical Offset	Ductile Iron	GP	1.5	5	5	250	8	22.5				6	20 ft.	7 ft.	
Waterline 1.10																
0+00.00	Tee	Ductile Iron	GP	1.5	5	4	250	12		8		18		1 ft.		
Waterline 1.11																
0+00.00	Tee	Ductile Iron	GP	1.5	5	3	250	12		6		18		1 ft.		
0+23.88	Vertical Offset	Ductile Iron	GP	1.5	5	3	250	6	22.5				4	12 ft.	4 ft.	
Waterline 1.12																
0+00.00	Tee	Ductile Iron	GP	1.5	5	4	250	12		8		18		1 ft.		
0+26.45	Horizontal Bend	Ductile Iron	GP	1.5	5	4	250	8	45					8 ft.		

Local Review Program – Project Report

Project Name:	Columbia Pike, Segment C			
Building Type:	N/A			
Office	N/A	sq. ft.		
Retail	N/A	sq. ft.		
Residential	N/A	number of units		
Hotel	N/A	number of units		
Other (type:)	N/A	sq. ft.		
Water Main				
New pipe information (excluding Fireline length)				
Length of water main by size	Size:	6	Length:	175'
	Size:	8	Length:	428'
	Size:	12	Length:	1694'
New Fire Hydrants	Number:	6		
Blow-offs	Number:	n/a		
Abandoned pipe and appurtenance information				
Length of water main by size	Size:	6	Length:	255'
	Size:	8	Length:	115'
	Size:	12	Length:	2415'
Fire Hydrants	Number:	5		
Blow-offs	Number:	n/a		
Water Meters and Connections				
Residential (sfd)	Number:		Size:	
Multi-family	Number:		Size:	
Commercial	Number:		Size:	
Institutional	Number:		Size:	
Industrial	Number:		Size:	
Irrigation	Number:		Size:	
Fireline (Connections)	Number:		Size:	
Other (type:)	Number:		Size:	
Sanitary Sewer Main				
New pipe information				
Length of sanitary sewer by size	Size:	8"	Length:	25'
	Size:	8"	Length:	72'
	Size:	12"	Length:	1298'
Number of MHs	Number:	9		
Abandoned pipe information				
Length of sanitary sewer by size	Size:	8"	Length:	16'
	Size:	8"	Length:	1600'
	Size:	12"	Length:	190'
Number of MHs	Number:	10		
Interceptor Information				
Type:	Grease		Sand/oil:	
			Both:	
Location:	Inside:		Outside:	
Size:	Size:			
New Bldg:	Yes		No	
Retrofit:	Yes		No	



PIPE DIA.	HORIZONTAL BEND 11 1/4° (1/32) a	b	22 1/2° (1/16) a	b	45° (1/8) a	b	90° (1/4) a	b	MIN. C
6"	5"	7"	7"	7"	11"	9"	15"	12"	18"
8"	7"	8"	10"	9"	14"	12"	20"	16"	18"
12"	10"	10"	16"	12"	23"	16"	36"	20"	18"
16"	12"	14"	20"	16"	32"	20"	48"	24"	24"

NOTES:
1. ALL BEARING SURFACES FOR CONCRETE BLOCKING SHALL BE UNDISTURBED EARTH WITH A MINIMUM BEARING VALUE OF 2,000 PSF. THE MINIMUM THICKNESS OF UNDISTURBED EARTH BEHIND THE BLOCKING SHALL BE 5 FEET.
2. BLOCKING SHOWN IS FOR A MAXIMUM STATIC PRESSURE OF 120 PSI PLUS WATER HAMMER ALLOWANCE OF 120 PSI.
3. FORM THE NON-BEARING SIDES OF THRUST BLOCKS BY USING PROPER FORMWORK.
4. SPECIAL BLOCKING DESIGN SHALL BE REQUIRED FOR CONDITIONS AND SIZES OTHER THAN THOSE INDICATED ON THIS SHEET.

CONCRETE THRUST BLOCKS FOR HORIZONTAL BENDS

REVISION & DATE

ARLINGTON VIRGINIA

ARLINGTON COUNTY, VIRGINIA
DEPARTMENT OF ENVIRONMENTAL SERVICES

DRAWING NO. W-2.0

NOTES: ARLINGTON COUNTY PREFERS TIE RODS TO BE INSTALLED FROM THE TEE TO THE FITTING THAT TURNS UP TO THE FIRE HYDRANT REGARDLESS OF LENGTH PER ARLINGTON COUNTY STANDARDS. AN ACCEPTABLE ALTERNATIVE IS TO INSTALL TIE RODS BETWEEN THE TEE ON THE MAIN AND THE VALVE, THEN INSTALL MEGA-LUGS BETWEEN THE VALVE AND THE FITTING THAT TURNS UP TO THE FIRE HYDRANT. IF THIS ALTERNATE METHOD IS USED FOR FIRE HYDRANT INSTALLATIONS, THRUST BLOCKS ARE REQUIRED 1) BEHIND THE TEE AT THE MAIN, AND 2) BEHIND THE FITTING TURNING UP AT THE HYDRANT PER ARLINGTON STANDARDS.

DETAIL: THRUST BLOCKS

ARLINGTON VIRGINIA
DEPARTMENT OF ENVIRONMENTAL SERVICES
Facilities & Engineering Division
Engineering Bureau
2100 Clarendon Boulevard, Suite 813
Arlington, VA 22201
Phone: 703.228.3629
Fax: 703.228.3606

Kimley»Horn
Kimley-Horn and Associates, Inc.

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11400 Commerce Park Drive, Suite 400
Reston Virginia 20191
Phone: 703-674-1300
Fax: 703-674-1350

Seal

COMMONWEALTH OF VIRGINIA
EDWARD J. DELIO
Lic. No. 0402054356
11/02/2022
PROFESSIONAL ENGINEER

Approvals	Date
Design Team Engineer Supervisor	
Construction Management Supervisor	
Water, Sewer, Streets Bureau Chief	
Transportation Director	
Project Manager	

Revisions	Date

Designed: MAT
Drawn: MAT
Checked: EJD
Miss Utility Transmittal #:

Filename: 010073-C-WATR.dwg
Path: K:\NOVA_RDWY\010010073 - Columbia Pike Multimodal Production\Task 7.5 Final Design of Columbia Pike Segments\Segment C\7.5.1 - 75% Design\Plan\Sheets
Plotted: November 02, 2022
Plotted by: Ted.DeLio

ARLINGTON COUNTY, VIRGINIA
DEPARTMENT OF ENVIRONMENTAL SERVICES

WATERLINE PLAN AND PROFILES - RESTRAINT LENGTHS
COLUMBIA PIKE - ROUTE 244
COLUMBIA PIKE - MULTIMODAL STREET IMPROVEMENTS
SEGMENT C

SCALE: HOR. N/A VERT. N/A | SHEET: C13.8 of C13.8

ARLINGTON VIRGINIA
DEPARTMENT OF ENVIRONMENTAL SERVICES
LUIS ARAYA
BUREAU CHIEF, DES - DEVELOPMENT SERVICES
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APPROVAL DATE