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To: Industry Stakeholders

From: Samer Beidas, P.E., CCM, Director of Engineering & Planning

Date: December 10, 2024

Re: USM Draft Changes

Dear Industry Stakeholders,

We have completed the final draft of the updated 2025 Utility Standards Manual (USM). Below is a list of significant changes and additions that were incorporated into the 2024 USM. References to the old USM sections have been provided where applicable.

2024 USM Section			
Chapter 1		Prince William Water's Role	
1.4	The Engineering & Planning Division	Removed references to Project Management Office (department no longer part of E&P)	1.4
1.5	Public Inquiries	Added information on requesting utility maps	1.5
1.8 B	Demolition Permits and Requirements	<i>New Section B</i> – added information regarding demolition permits	<i>New</i>
1.8 C	Lateral Repair or Replacement Permit and Requirements	<i>New Section C</i> – added information regarding lateral replacement permits	<i>New</i>
1.13 A.2.d	Summary of Fees – Certification Fees – Commercial	Added minimum capacity for 2-inch and greater commercial meters	1.13 A.2.d
1.13 A.2.e –	Summary of Fees – Certification Fees – Industrial	<i>New Section e</i> – added new Industrial User Customer Classification	<i>New</i>
Chapter 2		Project Administration	

2.1 B	Extension of Public Facilities – Applicant to Furnish Facilities within the Project Area and Developed Property	Updated title, updated language, clarified requirements for limits of utility extension and easements	2.1 B
2.1 E	Extension of Public Facilities – Public Main in Existing or Dedicated Right-of-Way	<i>New Section E</i> – specifies when easements are or are not required	<i>New</i>
2.1 F	Extension of Public Facilities – Easements for Proposed and Future Extensions	Updated section number, added clarification on requiring easements on Commonwealth/Federal land, deleted section on right-of-way	2.1 E
2.1 G	Extension of Public Facilities – Blanket Utility Easements	Updated section number	2.1 F
2.1 H	Extension of Public Facilities – Facility Sizing	Updated section number	2.1 G
2.4 C	Agreements – Acceptance of Facilities	Update bond release request requirements	2.4 C
2.7 I	Preconstruction Conference – Operations Around or within a Prince William Water Facility	Updated title, expanded section regarding access to Prince William Water facilities during construction and added requirements for permanently adjusting access routes	2.7 I
2.8	Field Engineering	Specified what changes require a formal plan revision rather than field revision	2.8
Chapter 3		Application and Plan Preparation	
3.2	Utility Design Best Practices	<i>New Section 3.2</i> – outlines Prince William Water-recommended best practices: -- Evaluate the Existing Utility System for New Service (Section A) -- Overall Utility Planning (Section B) -- Design Approach (Section C) -- Best Practices for Data Center (Section D)	<i>New</i>
3.3	Prince William County Planning and Land Use Applications	Updated section number	3.2

3.4	Application Procedures	Updated section number	3.3
3.5	Calculation of Plan Review Fees	Updated section number	3.4
3.6	Local Review Authority	Updated section number	3.5
3.7	Digital Data	Updated section number	3.6
3.8	Review Process	Updated section number	3.7
Chapter 4		Water Distribution System	
4.2 A	Hydraulic Requirements – General	Clarified when formal hydraulic reports are required and when calculations may be included in plans	4.2 A
4.2 B	Hydraulic Requirements – Hydraulic Analysis Report	Specified that hydraulic reports should be provided with first plan submission Section 2 – added that Prince William Water may provide simulated pump curve in place of hydrant flow report	4.2 B
4.2 D	Hydraulic Requirements – Flows and Pressures	Updated language, specified how fire flow is demonstrated for projects without formal hydraulic model	4.2 D
4.2 H.5.e	Hydraulic Requirements – Hydraulic Analysis Report Content – Assumptions	<i>New Section e</i> – requires summary table of water demands	4.2 H.5
4.2 H.8.b	Hydraulic Requirements – Hydraulic Analysis Report Content – Schematic	Updated language to require schematic to match actual planned layout	4.2 H.8.b
4.2 H.9	Hydraulic Requirements – Hydraulic Analysis Report Content – Appendixes	Appendixes A & B combined into one Updated Appendix C to B Updated Appendix D to C	4.2 H.9
4.3 B.1	Design – Location of Mains	Section a & b – updated language regarding pipe placement Deleted section e	4.3 B.1

		<i>New Section e</i> – added requirements regarding dry utility crossings in data center	
4.3 B.3.c	Design – Water Main Stubs	Added cross-reference	4.3 B.3.c
4.4 A.1.b	Water Main and Appurtenances – Ductile Iron Pipe – Material	Allowed higher-class pipe by default	4.4 A.1.b
4.4 B.1.a	Water Main and Appurtenances – Polyvinyl Chloride (C-900) Pipe – Materials	Updated minimum DR for C-900 water pipe	4.4 B.1.a
4.4 C	Water Main and Appurtenances – Restraint Calculations	Section 4 – added minimum pressure for reaction blocking design Section 10 – revised slope standards, added requirement for blocking	4.4 C
4.4 D	Water Main and Appurtenances – Corrosion Protection	Updated – wax tape to be used rather than Roskote	4.4 D
4.4 F.2	Water Main and Appurtenances – Utility Crossings	Section d – added duct banks <i>New Section e</i> – specifies requirements for reporting elevation of existing gravity utilities and allowable sources	4.4 F.2
4.4 F.3	Water Main and Appurtenances – Stream Crossings	Section e – updated language	4.4 F.3
4.4 G.3	Water Main and Appurtenances – Depth of Cover	Updated to refer to new USM Section 4.11	4.4 G.3
4.4 H.6	Water Main and Appurtenances – Casings	Updated language, specified requirements for extension of casings	4.4 H.6
4.5 E	Valves – Tapping Sleeves and Valves	Updated – tapping sleeves are no longer allowed by default, waiver is required for their use Removed product requirements – specifics are handled by waiver and Approved Product List	4.5 E
4.5 F.3	Valves – Valve Locations	Updated language for clarity	4.5 F.3
4.8 B.2	Hydrants – Hydrant Locations	Updated section to outline best practices for hydrant placement	4.8 B.2

4.10. G.3	Sewer only Meter for Process Water Discharge	Revised from Optiflux 2000 Electromagnetic to Neptune Mach 10 Ultrasonic.	4.10. G.3
4.11	Existing Utilities, Utility Relocations, & Redevelopment	<i>New Section</i> – specifies requirements for: -- Adjustments (Section A) -- Demolition (Section B) -- Abandonment (Section C) -- Removal (Section D) -- Replacement (Section E) -- Relocations (Section F)	<i>New</i>
4.12	Water Main Construction	Updated section number	4.11
4.13	Testing to Place Utilities Into Service	Updated section number	4.12
4.14	Water Main Easements	Updated section number	4.13
4.14 A	Water Main Easements – General	<i>New Section</i> – specified general easement requirements	<i>New</i>
4.14 B	Water Main Easements – Easement Widths	Updated section number Added hydrants to base easement width requirements, specified minimum extent beyond hydrant for easement	4.13 A
4.14 C	Water Main Easements – Easement Exclusions and Offsets	Updated section number Section 1 – updated language to clarify storm structures are included as permanent structures for easement exclusion Section 2 – updated offset requirements in right-of-way Section 3 – added requirements for foundation loading details when sufficient separation cannot be provided	4.13 B
4.14 D	Water Main Easements – Easement Access	Updated section number Updated language for access easements <i>New Section 3</i> – specified site access agreements for secure sites Section 4 – updated section number (old 3)	4.13 C

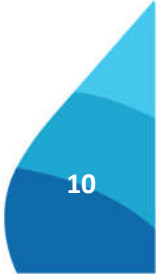
4.14 E	Water Main Easements – Overlap with Other Easements	Updated section number	4.13 D
4.15	Water Main Information Required in Project Plans	Updated section number	4.14
4.15 A.2.e	Water Main Information Required in Project Plans – Cover Sheet	Added requirement of including Town representative on cover sheet	4.14 A.2.e
4.15 B	Water Main Information Required in Project Plans – Plan View	Section 2 – added other utilities to context Section 4 – added that utility info can be requested from Prince William Water <i>New Section 7</i> – specified casing requirements Section 8 – added requirements for caps to be shown Section 8-17 – updated section number	4.14 B
4.15 C	Water Main Information Required in Project Plans – Profile View	Section 6 – added requirement to identify all vertical bends Section 8 – updated language, requirements split into subsections Section 9 – updated language	4.14 C
4.15 E	Landscape Sheets	<i>New Section</i> – specified requirements for landscape sheets	<i>New</i>
4.15 F	Unit Price Sheet	Updated section number Section 1 – specified how quantities are determined <i>New Section 2</i> – specified valves are bonded separately Section 3 – updated section number (old 2) Section 4 – updated for clarity <i>New Section 5</i> – clarified bonding on fire lines Section 6 – updated section number (old 4)	4.14 E
Chapter 5		Sanitary Sewer Collection Systems	

5.2	Sanitary Sewer Capacity Evaluation	Replaced Sanitary Sewer Study requirements, capacity evaluation to be conducted by Prince William Water Deleted Section A (Sanitary Sewer Study Parameters) and Section B (Sanitary Sewer Study Format)	5.2
5.4 C	Design – Layout	Section 1 split into 1 & 2, section 2-5 updated to 3-6	5.4 C
5.4 D	Design – Extension and Access	Section 2 – removed terminal manhole requirement <i>New Section 3</i> – specifies when terminal manhole is required or where plugs may be used <i>New Section 4</i> – requires terminal manholes to be removed when sewer extension has same invert, grade, & alignment	5.4 D
5.5 C	Gravity Sewer Mains and Appurtenances – Ductile Iron Pipe	Language update, adds cover specifications to stream crossings	5.5 C
5.5 E.2.a	Gravity Sewer Mains and Appurtenances – Corrosion Protection	Updates requirements to require internal cured-in-place lining for all DIP sewer mains	5.5 E.2.a
5.5 F.1.b	Gravity Sewer Mains and Appurtenances – Separation and Crossings	Updated language, added duct banks	5.5.F.1.b
5.5 F.2	Gravity Sewer Mains and Appurtenances – Utility Crossings	<i>New Section d</i> – requirements for crossing of large storm pipes and duct banks Section e – updated section number (old d)	5.5 F.2
5.5 F.3.g	Gravity Sewer Mains and Appurtenances – Stream Crossings	<i>New Section g</i> – clay dam requirements	<i>New</i>
5.5 H	Gravity Sewer Mains and Appurtenances – Depth of Cover	Section 5 & 6 removed (moved to 5.xx)	5.5 H
5.6 B	Sanitary Sewer Manholes – Design	Section 1 – updated language Section 4 – updated language	5.6 B

5.6 C	Sanitary Sewer Manholes – Manhole Locations	<i>New Section 3</i> – requirement for level area around manholes in sloped, non-paved areas for safe access Section 4-6 – updated section numbers (old 3-5)	5.6 C
5.6 D	Sanitary Sewer Manholes – Manhole Frames and Covers	<i>New Section 3</i> – requirements for private manholes Section 4 – updated section number (old 3)	5.6 D
5.6 F.2	Sanitary Sewer Manholes – Manhole Linings for Force Mains	Restructured – subsection a-d removed, summary table provided to better convey requirements	5.6 F.2
5.7 A	Sanitary Sewer Lateral Connections – Materials	<i>New Section 2</i> – requirements for laterals in the right-of-way Section 3 – updated section number (old 2)	5.7 A
5.7 B	Sanitary Sewer Lateral Connections – Design	Section 3 – revised to allow connections to solid-wall PVC sewer >12-inch without requiring a waiver. <i>New Section 4</i> – limits connections to lines running between lots Sections 5-7 – updated section number (old 4-6)	5.7 B
5.8 A	Low Pressure Force Mains – General	Updated language	5.8 A
5.8 C	Low Pressure Force Mains – Design	Updated flow requirements to align with Table 5-1 Section 5 – raised max operating pressure	5.8 C
5.8 D	Low Pressure Force Mains – Connections to An Existing LPFM System	Section 1 - updated flow requirements.	5.8 D
5.11	Existing Utilities, Utility Relocations, & Redevelopment	Section expanded – specifies requirements for: -- Adjustments (<i>New Section A</i>) -- Demolition (<i>New Section B</i>) -- Abandonment (Section C) – old A, expanded -- Removal (Section D) – old B, expanded -- Relocations (<i>New Section E</i>) -- Low Pressure Force Main Relocations (<i>New Section F</i>)	5.11

		-- Force Main Relocations (<i>New Section G</i>) -- Private Sanitary Sewer Systems (Section H) – old C, expanded	
5.12 H.8	Sanitary Sewer Construction – Manholes, Frames and Covers	<i>New Section 9</i> – adds requirements to protect under construction manholes from flooding	<i>New</i>
5.12 K	Sanitary Sewer Construction – Cleanouts	<i>New Section 1</i> – general cleanout requirements Section 2-3 – updated section numbers (old 1-2)	5.12 K
5.14 A	Sewage Bypass Pumping Requirements – General	Section A – added PE and submittal timeline requirements	5.14 A
5.14 B	Sewage Bypass Pumping Requirements – Required Submittals	Section B – added reference to new Appendix S	5.14 B
5.14 C	Sewage Bypass Pumping Requirements – Bypass Pumping Flow Control	Updated title, revised & expanded language Section 1 – revised, provided specific requirements for pumps <i>New Section 2</i> – added requirements for coordinating with any impacted pump stations Section 3-4 – updated section numbers (old 2-3)	5.14 C
5.14 D	Sewage Bypass Pumping Requirements – Bypass Pumping Plans Submittal	Updated title, section completely revised	5.14 D
5.14 E	Sewage Bypass Pumping Requirements – Bypass Pumping Monitoring and Equipment	Updated title, expanded & revised language	5.14 E
5.14 F	Sewage Bypass Pumping Requirements – Bypass Pumping Field Testing and Startup	<i>New Section</i> – detailed requirements for starting a bypass pumping operation	<i>New</i>
5.14 G	Sewage Bypass Pumping Requirements – Bypass Pumping Maintenance	<i>New Section</i> – detailed requirements for maintaining bypass pumping equipment during an operation	<i>New</i>
5.14 H	Sewage Bypass Pumping Requirements – Bypass Pumping Required Notifications	Updated title, updated section number	5.14 F

5.14 I	Sewage Bypass Pumping Requirements – Bypass Pumping Emergency Response Requirements	Updated title, updated section number	5.14 G
5.15 C	Sanitary Sewer Main Easements – Easement Exclusions and Offsets	Section 1 – updated language to clarify storm structures are included as permanent structures for easement exclusions Section 2 – updated offset requirements for right-of-way Section 3 – added requirements for foundation loading details when sufficient separation cannot be provided Section 4 – deleted	5.15 C
5.15 D	Sanitary Sewer Main Easements – Easement Access	Section 1 – updated language for access easements <i>New Section 3</i> – specified site access agreements for secure sites Section 4 – updated section number (old 3)	5.15 D
5.16 A	Sanitary Sewer Information Required in Project Plans – Cover Sheet	Section 2.e – added requirement of including Town representative on cover sheet	5.16 A
5.16 B	Sanitary Sewer Information Required in Project Plans – Plan View	Section 2 – added other utilities to context Section 4 – added that utility info can be requested from Prince William Water <i>New Section 7</i> – specified casing requirements Section 8-15 – updated section number (old 7-14) Section 8 – added requirements for caps to be shown Section 9 – updated for clarity Section 11 – updated cleanout requirements Section 12 – updated requirements for cleanouts in pavement	5.16 B



5.16 C	Sanitary Sewer Information Required in Project Plans – Profile View	<p><i>Section 3</i> – old Section 18</p> <p>Section 4-18 – updated section numbers (old 3-17,)</p> <p>Section 9 – added requirements to show vents</p>	5.16 C
5.16 F	Sanitary Sewer Information Required in Project Plans – Unit Price Sheet	<p>Section 1 – specified how quantities are determined</p> <p><i>New Section 3</i> – added requirements for pump station bonding</p>	5.16 F
Chapter 6		Sewage Pumping Stations	
6.6 B	Pump Station Selection Criteria – Design Limitations	<p>Section 2.b – added stainless wire rope to allowable pump lifts, added requirements for isolation valves around flow meters, added requirements for chemical resistance coatings</p> <p>Section 3.b – added preference for motor cooling</p>	6.6 B
6.7 F	Design Criteria for Pump Stations – Valves and Piping	Added requirements for limit switches for check valves, added requirements for bypass pumping connection	6.7 F
6.7 G	Design Criteria for Pump Stations – Lighting	Added requirements for outside lighting control	6.7 G
6.7 I	Design Criteria for Pump Stations – Controls	Removed ultrasonic level transducer	6.7 I
6.7 K	Design Criteria for Pump Stations – Ventilation	Added preference for direct-drive exhaust fans	6.7 K
6.7 M	Design Criteria for Pump Stations – Structures	Added requirements for door locks	6.7 M
6.7 U	Design Criteria for Pump Stations – Electrical Equipment Type	Added conduit requirements	6.7 U